

# Models: 105/110, 310/311

TORSION

REAR MOUNT LOW HEADROOM

MH

INSTALLATION INSTRUCTIONS AND OWNER'S MANUAL

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## IMPORTANT NOTICES!

Wayne-Dalton highly recommends that you read and fully understand the Installation Instructions and Owner's Manual before you attempt this installation.

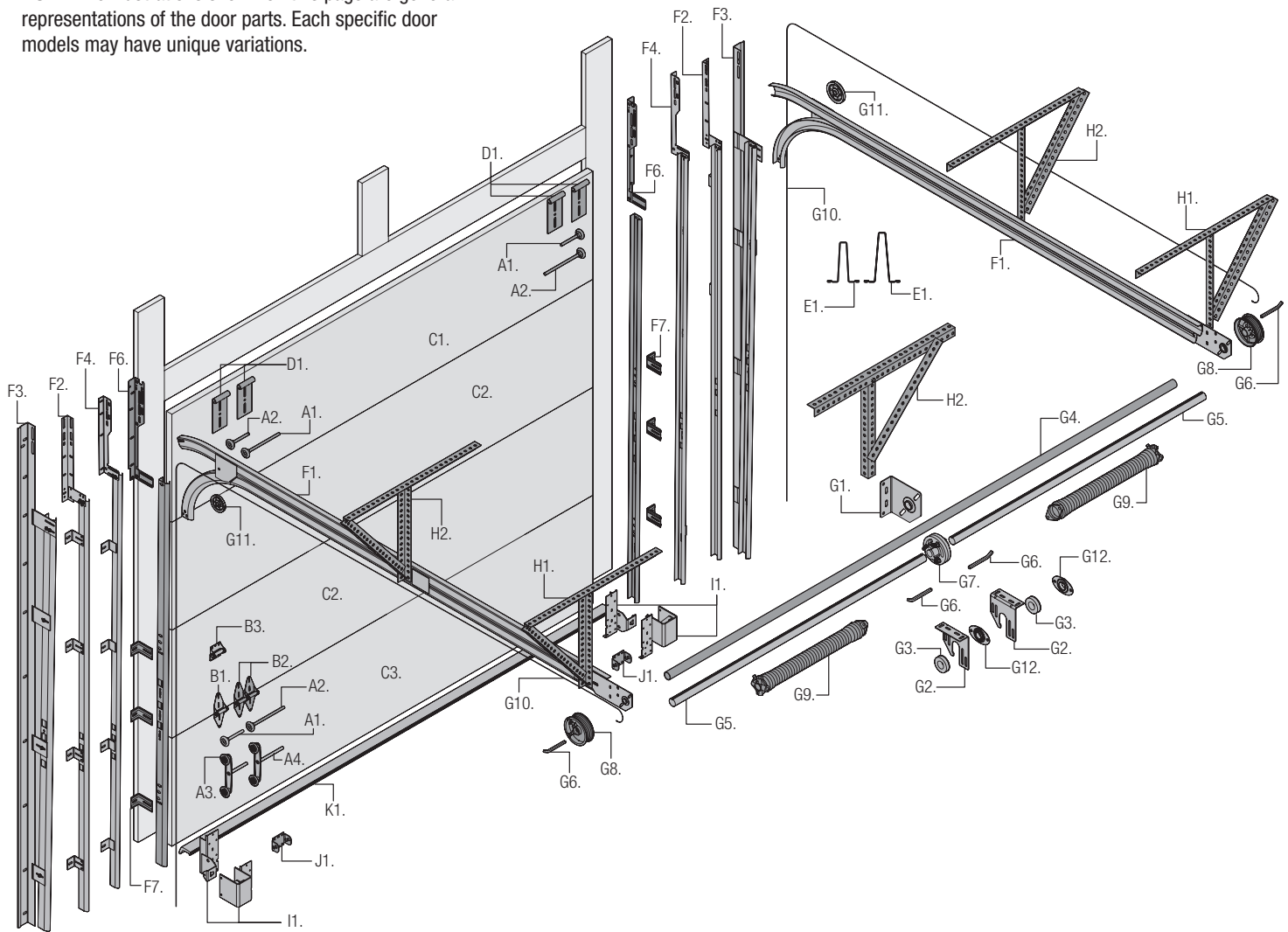
To avoid possible injury, read the enclosed instructions carefully before installing and operating the garage door. Pay close attention to all warnings and notes. After installation is complete, fasten this manual near garage door for easy reference.

The complete Installation Instructions and Owner's Manual are available at no charge from:

Wayne-Dalton, a Division Of Overhead Door Corporation,  
P.O. Box 67, Mt. Hope, OH., 44660,  
Or Online At **[www.Wayne-Dalton.com](http://www.Wayne-Dalton.com)**

# PARTS BREAKDOWN

**NOTE:** The illustrations shown on this page are general representations of the door parts. Each specific door models may have unique variations.



## A. TRACK ROLLERS (AS REQUIRED):

- A1. Short Stem Track Rollers
- A2. Long Stem Track Rollers
- A3. Short Stem Tandem Track Rollers
- A4. Long Stem Tandem Track Rollers

## B. GRADUATED END HINGES:

- B1. Single Graduated End Hinges (S.E.H.), Industry Standard
- B2. Double Graduated End Hinges (D.E.H.), Industry Standard
- B3. Half Center Hinges (As Required)

## C. STACKED SECTIONS:

- C1. Top Section
- C2. Intermediate(s) Section (As Required)
- C3. Bottom Section

## D. TOP FIXTURES (AS REQUIRED):

- D1. Top Fixtures

## E. STRUT (S), U-SHAPED (AS REQUIRED):

- E1. Strut (2" And Or 3")

## F. TRACKS (AS REQUIRED):

- F1. Left Hand and Right Hand Horizontal Track Assemblies
- F2. Left Hand and Right Hand Riveted Track Assemblies (As Required)
- F3. Left Hand and Right Hand Wall Angle Track Assemblies (As Required)
- F4. Left Hand and Right Hand Vertical Track Assemblies (As Required)
- F5. Left Hand and Right Hand Vertical Tracks (As Required)
- F6. Left Hand and Right Hand Fully Adjustable (F.A.) Flag Angles (As Required)

- F7. Left Hand and Right Hand Fully Adjustable (F.A.) Jamb Brackets (As Required)

## G. TORSION SPRING ASSEMBLY (AS REQUIRED):

- G1. Center Bearing Bracket (As Required)
- G2. Center Bracket (As Required)
- G3. Center Bearing (As Required)
- G4. Torsion Shaft/Torsion Keyed Shaft (As Required)
- G5. Torsion Keyed Shafts (As Required)
- G6. Keys (As Required)
- G7. Center Coupler Assembly (As Required)
- G8. Left and Right Hand Cable Drums
- G9. Left and Right Hand Torsion Springs (As Required)
- G10. Counterbalance Lift Cables
- G11. Cable Sheaves
- G12. Oval bearings (As Required)

## H. REAR BACK HANGS:

- H1. Left Hand and Right Hand Rear Back Hang Assemblies
- H2. Left Hand and Right Hand Rear Center Back Hang Assemblies (As Required)

## I. BOTTOM CORNER BRACKETS (AS REQUIRED):

- I1. Left Hand and Right Hand Bottom Corner Brackets

## J. TRACK ROLLER CARRIERS (AS REQUIRED):

- J1. Track Roller Carriers

## K. BOTTOM WEATHER SEAL (AS REQUIRED):

- K1. Bottom Weather Seal (Door Width)

## Important Safety Instructions

### DEFINITION OF KEY WORDS USED IN THIS MANUAL:

### WARNING

**INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH; IF NOT AVOIDED, COULD RESULT IN SEVERE OR FATAL INJURY.**

**CAUTION:** PROPERTY DAMAGE OR INJURY CAN RESULT FROM FAILURE TO FOLLOW INSTRUCTIONS.

**IMPORTANT:** REQUIRED STEP FOR SAFE AND PROPER DOOR OPERATION.

**NOTE:** Information assuring proper installation of the door.

READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING INSTALLATION. IF IN QUESTION ABOUT ANY OF THE PROCEDURES, DO NOT PERFORM THE WORK. INSTEAD, HAVE A TRAINED DOOR SYSTEMS TECHNICIAN DO THE INSTALLATION OR REPAIRS.

- 1. READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS.**
- Wear protective gloves during installation to avoid possible cuts from sharp metal edges.
- It is always recommended to wear eye protection when using tools, otherwise eye injury could result.
- Avoid installing your new door on windy days. Door could fall during the installation causing severe or fatal injury.
- Doors 12'-0" wide and over should be installed by two persons, to avoid possible injury.
- Operate door only when it is properly adjusted and free from obstructions.
- If a door becomes hard to operate, inoperative or is damaged, immediately have necessary adjustments and/ or repairs made by a trained door system technician using proper tools and instructions.
- DO NOT stand or walk under a moving door, or permit anybody to stand or walk under an electrically operated door.
- DO NOT place fingers or hands into open section joints when closing a door. Use lift handles/ gripping points when operating door manually.
- DO NOT permit children to operate garage door or door controls. Severe or fatal injury could result should the child become entrapped between the door and the floor.
- Due to constant extreme spring tension, do not attempt any adjustment, repair or alteration to any part of the door, especially to springs, spring brackets, bottom corner brackets, fasteners, counterbalance lift cables or supports. To avoid possible severe or fatal injury, have any such work performed by a trained door systems technician using proper tools and instructions.
- On electrically operated doors, pull down ropes must be removed and locks must be removed or made inoperative in the open (unlocked) position.
- Top section of door may need to be reinforced when attaching an electric opener. Check door and/ or opener manufacturer's instructions.
- Visually inspect door and hardware monthly for worn and or broken parts. Check to ensure door operates freely.
- Test electric opener's safety features monthly, following opener manufacturer's instructions.
- NEVER hang tools, bicycles, hoses, clothing or anything else from horizontal tracks. Track systems are not intended or designed to support extra weight.
- This door may not meet the building code wind load requirements in your area. For your safety, you will need to check with your local building official for wind load code requirements and building permit information.

**After installation is complete, fasten this manual near the garage door.**

**IMPORTANT:** STAINLESS STEEL OR PT2000 COATED LAG SCREWS MUST BE USED WHEN INSTALLING CENTER BEARING BRACKETS, END BRACKETS, JAMB BRACKETS, DRAWBAR OPERATOR MOUNTING/ SUPPORT BRACKETS AND DISCONNECT BRACKETS ON TREATED LUMBER (PRESERVATIVE-TREATED). STAINLESS STEEL OR PT2000 LAG SCREWS ARE NOT NECESSARY WHEN INSTALLING PRODUCTS ON UN-TREATED LUMBER.

**NOTE:** It is recommended that 5/16" lag screws are pilot drilled using a 3/16" drill bit, prior to fastening.

**IMPORTANT:** WHEN INSTALLING 5/16" LAG SCREWS USING AN ELECTRIC DRILL/ DRIVER, THE DRILL/ DRIVERS CLUTCH MUST BE SET TO DELIVER NO MORE THAN 200 IN-LBS OF TORQUE. FASTENER FAILURE COULD OCCUR AT HIGHER SETTINGS.

### WARNING

**PRIOR TO WINDING OR MAKING ADJUSTMENTS TO THE SPRINGS, ENSURE YOU'RE WINDING IN THE PROPER DIRECTION AS STATED IN THE INSTALLATION INSTRUCTIONS. OTHERWISE, THE SPRING FITTINGS MAY RELEASE FROM SPRING IF NOT WOUND IN THE PROPER DIRECTION AND COULD RESULT IN SEVERE OR FATAL INJURY.**

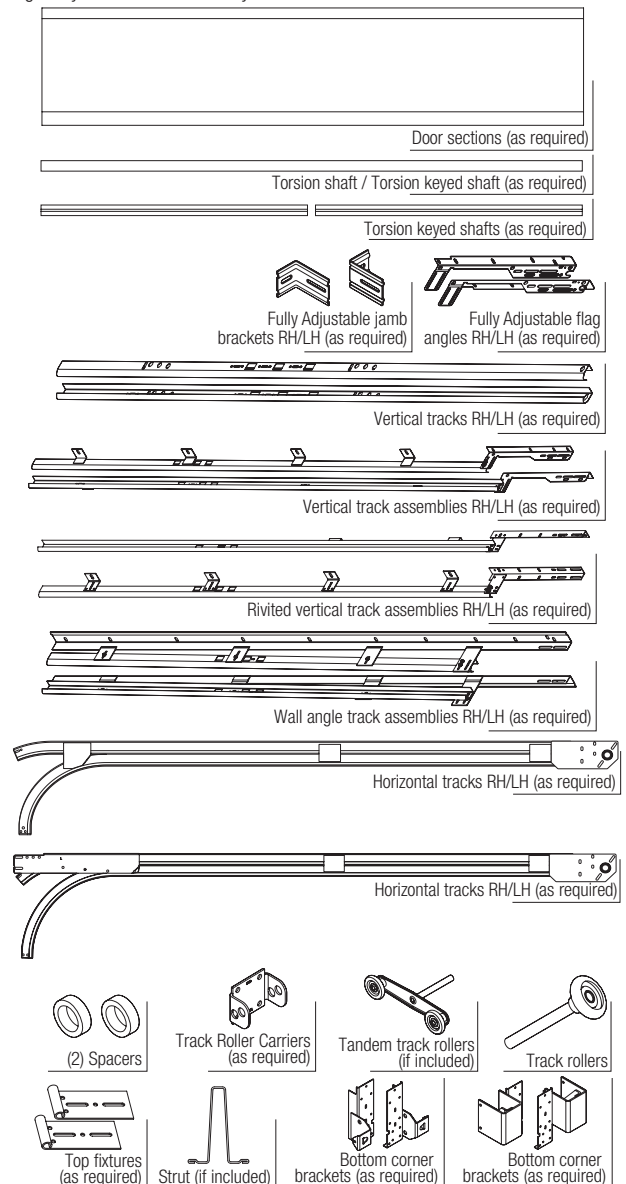
**IMPORTANT:** RIGHT AND LEFT HAND IS ALWAYS DETERMINED FROM INSIDE THE BUILDING LOOKING OUT

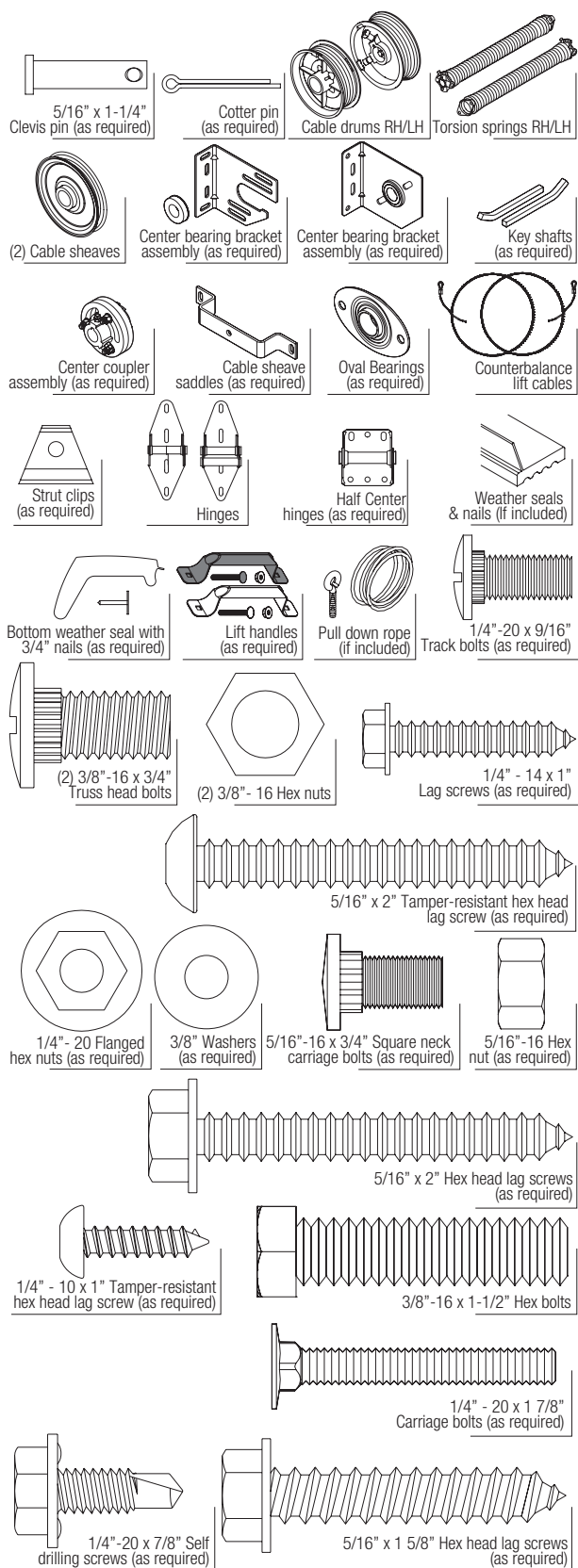
## Tools Required

- Power drill
- Drill bits: 1/8", 3/16", 9/32", 7/16", 1/2"
- Ratchet wrench
- Socket driver: 7/16"
- Sockets: 7/16", 1/2", 9/16", 5/8"
- Phillips head screwdriver
- Locking Pliers
- (2) Vice clamps
- Wrenches: 3/8", 7/16", 1/2", 9/16", 5/8"
- 1/4" Torx bit
- Approved winding rods
- Hammer
- Tape measure
- Step Ladder
- Level
- Pencil
- Leather gloves
- Safety glasses

## Package Contents

**NOTE:** Depending on the door model, some parts listed will not be supplied if not required. Rear Back Hangs may not be included with your door.





## Door Section Identification

When installing your door, you must use sections of the appropriate height in the right stacking location. Determine, what sections you need to use in what order depends on the design of your door.

Sections are stamped for identification, #1, #2, #3, #4, #5, #6, #7, and #8. The stamp, located

on each side of the sections identifies the stacking sequence. The sequence is always determined by #1 being the bottom section to #7 or #8 being the highest top section. If the stamp on the section is illegible, refer to the section side view illustration. The section side view illustration shows the section profile of all sections, and can also be used to identify each section.

The **BOTTOM SECTION** can be identified by #1.

The **INTERMEDIATE I SECTION** can be identified by #2.

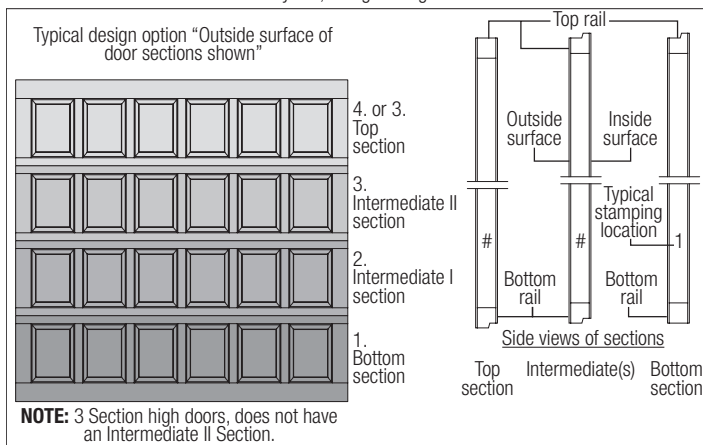
The **INTERMEDIATE II SECTION** can be identified by #3, for a 4 section high door only.

The **INTERMEDIATE III SECTION** can be identified by #4, for a 5 section high door only.

The **INTERMEDIATE IV SECTION** can be identified by #5, for a 6 section high door only.

The **INTERMEDIATE V SECTION** can be identified by #6, for a 7 section high door only.

The **TOP SECTION** can be identified by a #, being the highest section.



## Graduated End Hinge And Strut Identification

Graduated End Hinge Schedule			
Door Height	Track	Section Type	Graduated End Hinge Number
3 Section High Door	2"	Top	N/A
		Intermediate I	#2
		Bottom	#1
	3"	Top	N/A
		Intermediate I	#4
		Bottom	#3
4 Section High Door	2"	Top	N/A
		Intermediate II	3#
		Intermediate I	2#
	3"	Top	N/A
		Intermediate II	5#
		Intermediate I	4#
5 Section High Door	2"	Top	N/A
		Intermediate III	4#
		Intermediate II	3#
		Intermediate I	2#
	3"	Bottom	1#
		Top	N/A
		Intermediate III	6#
		Intermediate II	5#
		Intermediate I	4#
		Bottom	3#



Graduated End Hinge Schedule			
6 Section High Door	2"	Top	N/A
		Intermediate IV	5#
		Intermediate III	4#
		Intermediate II	3#
		Intermediate I	2#
		Bottom	1#
	3"	Top	N/A
		Intermediate IV	7#
		Intermediate III	6#
		Intermediate II	5#
		Intermediate I	4#
		Bottom	3#
7 Section High Door	2"	Top	N/A
		Intermediate V	6#
		Intermediate IV	5#
		Intermediate III	4#
		Intermediate II	3#
		Intermediate I	2#
		Bottom	1#
	3"	Top	N/A
		Intermediate V	8#
		Intermediate IV	7#
		Intermediate III	6#
		Intermediate II	5#
		Intermediate I	4#
		Bottom	3#

**NOTE:** Center hinge(s) use #1 graduated end hinges at each pre-drilled vertical stile location. The pre-drilled locations are located at the top and/or bottom rails on the inside of the section surface.

**NOTE:** Some doors will receive half center hinge(s). These will be installed in between the center hinge(s) and graduated end hinge(s).

#### STRUT IDENTIFICATION:

Identify your struts to determine which ones are long strut(s) or short strut(s).

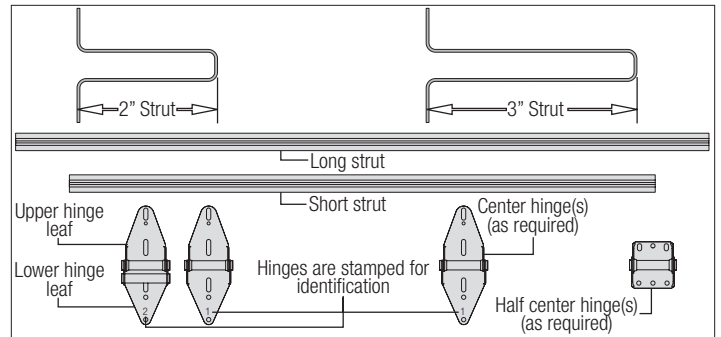
Short Strut(s) are typically installed along the top rail of the top section and/or along the bottom rail of the bottom section.

Long Strut(s) are typically installed along the top and/or bottom rails of sections. Measure the height of the long strut(s) to determine if you have 2" or 3".

**NOTE:** Some struts also may or may not have holes in them. If they don't, then prior to installing the strut and hinge to the section surface, you may have to drill a 3/16" hole for the appropriate fastener on one or both sides of the strut legs.

Strutting Schedule for Door Heights Less Than Or Equal to 8'0"			
Product	Door Width		
	Up To and Including 12'2"	From 12'3" To 16'0"	From 16'1" To 18'0"
Model 105	N/A	(4) 2" Struts	N/A
Model 110	N/A	(4) 2" Struts	(4) 3" Struts
Model 310/311	N/A	(4) 2" Struts	(4) 3" Struts

Strutting Schedule for Door Heights Greater Than Or Equal to 8'1"			
Product	Door Width		
	Up To and Including 12'2"	From 12'3" To 16'0"	From 16'1" To 18'0"
Model 105	(2) 2" Struts	(1) 2" Strut, per section, Plus 1	N/A
Model 110	(2) 2" Struts	(1) 2" Strut, per section, Plus 1	(1) 3" Strut, per section, Plus 1
Model 310/311	(2) 2" Struts	(1) 2" Strut, per section, Plus 1	(1) 3" Strut, per section, Plus 1



## Removing an Existing Door

**IMPORTANT:** COUNTERBALANCE SPRING TENSION MUST ALWAYS BE RELEASED BEFORE ANY ATTEMPT IS MADE TO START REMOVING AN EXISTING DOOR.

### WARNING

**A POWERFUL SPRING RELEASING ITS ENERGY SUDDENLY CAN CAUSE SEVERE OR FATAL INJURY. TO AVOID INJURY, HAVE A TRAINED DOOR SYSTEMS TECHNICIAN, USING PROPER TOOLS AND INSTRUCTIONS, RELEASE THE SPRING TENSION.**

For detailed information see supplemental instructions "Removing an Existing Door/ Preparing the Opening". These instructions are not supplied with the door, but are available at no charge from Wayne-Dalton, A Division Of Overhead Door Corporation, P.O. Box 67, Mt. Hope, OH., 44660, or at [www.Wayne-Dalton.com](http://www.Wayne-Dalton.com).

## Preparing the Opening

**IMPORTANT:** IF YOU JUST REMOVED YOUR EXISTING DOOR OR YOU ARE INSTALLING A NEW DOOR, COMPLETE ALL STEPS IN PREPARING THE OPENING.

To ensure secure mounting of track brackets, side and center brackets, or steel angles to new or retro-fit construction, it is recommended to follow the procedures outlined in DASMA technical data sheets #156, #161 and #164 at [www.dasma.com](http://www.dasma.com).

The inside perimeter of your garage door opening should be framed with wood jamb and header material. The jambs and header must be securely fastened to sound framing members. It is recommended that 2" x 6" lumber be used. The jambs must be plumb and the header level. The jambs should extend a minimum of 12" (305 mm) above the top of the opening for Torsion counterbalance systems. For low headroom applications, the jambs should extend to the ceiling height. Minimum side clearance required, from the opening to the wall, is 3-1/2" (89 mm), for 2" track. Minimum side clearance required, from the opening to the wall, is 4-1/2" (114 mm), for 3" track.

**IMPORTANT:** CLOSELY INSPECT JAMBS, HEADER AND MOUNTING SURFACE. ANY WOOD FOUND NOT TO BE SOUND, MUST BE REPLACED.

For Torsion counterbalance systems, a suitable mounting surface (2" x 6") must be firmly attached to the wall, above the header at the center of the opening.

**NOTE:** Drill a 3/16" pilot hole in the mounting surface to avoid splitting the lumber. Do not attach the mounting surface with nails.

#### WEATHERSTRIPS (MAY NOT BE INCLUDED):

Depending on the size of your door, you may have to cut or trim the weatherstrips (if necessary) to properly fit into the header and jambs.

**NOTE:** If nailing product at 40°F or below, pre-drilling is required.

**NOTE:** Do not permanently attach weatherstrips to the header and jambs at this time.

For the header, align the weatherstrip 1/8" to 1/4" inside the header edge, and temporarily secure it to the header with equally spaced nails. Starting at either side of the jamb, fit the weatherstrip up tight against the temporarily attached weatherstrip in the header and 1/8" to 1/4" inside the jamb edge. Temporarily secure the weatherstrip with equally spaced nails. Repeat for other side. This will keep the bottom section from falling out of the opening during installation. Equally space nails approximately 12" to 18" apart.

**Backroom requirement:** Backroom is defined as the distance needed from the opening back into the garage to allow the door to open fully.

**\*NOTE:** For door heights from 10'1" to 12'0", refer to your operator manufacture installation instructions for appropriate depth into room.

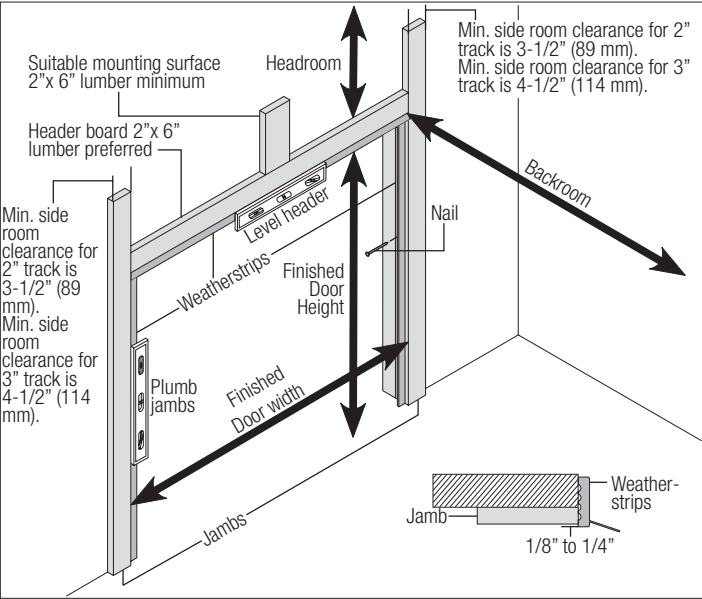
**Headroom requirement:** Headroom is defined as the space needed above the top of the door for tracks, springs, etc. to allow the door to open properly. If the door is to be motor operated, 2-1/2" (64 mm) of additional headroom is required.

#### BACKROOM REQUIREMENTS

Door Height	Track	Manual Lift	Motor Operated
6'0" to 7'0"	15" Radius	102" (2591 mm)	125" (3175 mm)
7'1" to 8'0"		114" (2896 mm)	137" (3480 mm)
8'1" to 9'0"		126" (3200 mm)	168" (4267 mm)
9'1" to 10'0"		138" (3505 mm)	168" (4267 mm)
10'1" to 12'0"		162" (4115 mm)	*

**HEADROOM REQUIREMENTS**

Track Type	Space Needed
6" LHR	9" (229 mm)



# INSTALLATION

Before installing your door, be certain that you have read and followed all of the instructions covered in the pre-installation section of this manual. Failure to do so may result in an improperly installed door.

**IMPORTANT:** WOOD DOORS MUST BE COMPLETELY FINISHED (3 TOTAL COATS, INCLUDING PRIMER COAT) PRIOR TO INSTALLATION, TO ENSURE THAT THE INTERIOR AND EXTERIOR SURFACES, AS WELL AS ALL EDGES OF THE DOORS ARE PROPERLY PROTECTED AGAINST MOISTURE OR OTHER CONTAMINANTS. WOOD DOORS, IN A NON-FINISHED CONDITION, MUST BE TRANSPORTED AND STORED SO THE WOOD SURFACES ARE NOT EXPOSED TO MOISTURE OR OTHER CONTAMINANTS. IMPROPER TRANSPORTATION, STORAGE OR DELAYS IN FINISHING, THAT ALLOWS EXPOSURE OF THE WOOD DOOR SURFACES TO MOISTURE OR OTHER CONTAMINANTS WILL RESULT IN THE WARRANTY BEING VOIDED.

**NOTE:** Reference TDS 160 for general garage door terminology at [www.dasma.com](http://www.dasma.com).

1

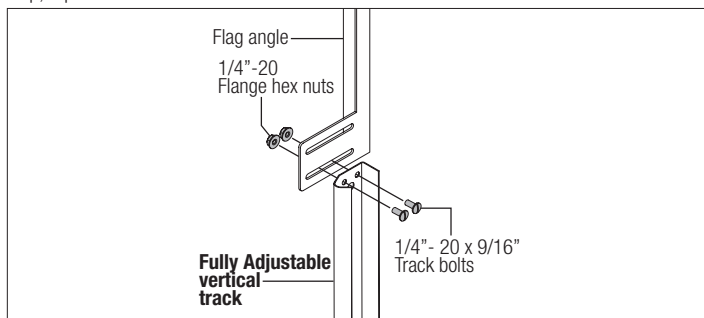
## Fully Adjustable Flag Angles

Tools: None

**NOTE:** If you have a wall angle track assembly or if you already have flag angles pre-attached to the vertical tracks, skip this step. Refer to Package Contents / Parts Breakdown, to determine if you have flag angles.

**NOTE:** Flag angles are right and left handed.

If you have Fully Adjustable vertical tracks, hand tighten the left hand flag angle to the left hand vertical track using (2) 1/4"-20 x 9/16" track bolts and (2) 1/4"-20 flange hex nuts. Repeat for other side. Flange nuts will be secured after flag angle spacing is completed in step, Top Section.



2

## Fully Adjustable Jamb Brackets

Tools: None

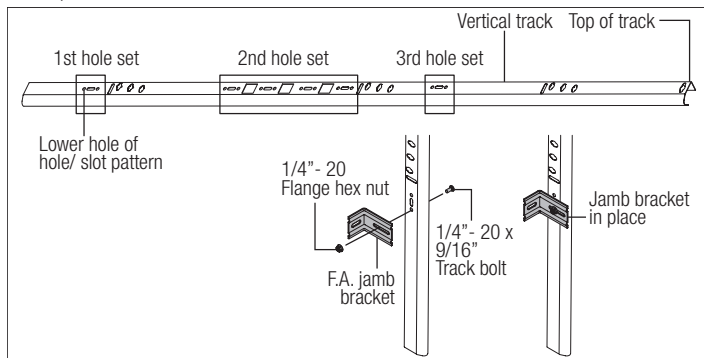
**NOTE:** If you have a wall angle track assembly or if you already have jamb brackets pre-attached to the vertical tracks, skip this step. Refer to Package Contents / Parts Breakdown, to determine if you have jamb brackets.

**NOTE:** The bottom jamb bracket is always the shortest bracket, while the center jamb bracket is the next tallest. If three jamb brackets per side are included with your door, you will have received a top jamb bracket, which is the tallest.

To attach the bottom jamb bracket, locate lower hole of the hole/ slot pattern of the 1st hole set on the vertical track. Align the slot in the jamb bracket with the lower hole of the hole/ slot pattern. Secure jamb bracket using (1) 1/4"-20 x 9/16" track bolt and (1) 1/4"-20 flange hex nut. Repeat for other side.

Place the center jamb bracket over the lower hole of the hole/ slot pattern that is centered between the bottom jamb bracket and flag angle of the 2nd hole set. Secure jamb bracket using (1) 1/4"-20 x 9/16" track bolt and (1) 1/4"-20 flange hex nut. Repeat for other side.

If a top jamb bracket was included, secure it to vertical track using the lower hole of the hole/ slot pattern in the 3rd hole set and (1) 1/4"-20 x 9/16" track bolt and (1) 1/4"-20 flange hex nut. Repeat for other side.



3

## Bottom Weather Seal

Tools: Hammer, Tape Measure, Saw Horses

**NOTE:** If a bottom weather seal is supplied, complete this step.

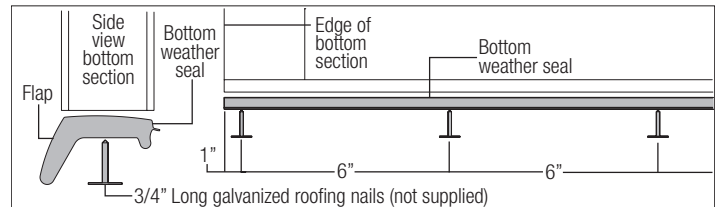
**NOTE:** Refer to Door Section Identification / Parts Breakdown.

Place the bottom section face down on a couple of sawhorses or flat clean/ smooth surface. Align the bottom weather seal with the flap pointing towards the outside surface of the bottom section.

Starting at one end of the door, measure inward 1" and attach the bottom weather seal to the bottom of the bottom section with 3/4" long galvanized roofing nails (not supplied). Now stretch the bottom weather seal slightly and nail the rest of the bottom weather seal to the bottom of the bottom section every 6".

Once the bottom weather seal is fastened cut off any extra material so that the bottom weather seal is even with both ends of the bottom section.

**NOTE:** Verify bottom weather seal is aligned with bottom section. If there is more than 1/2" excess weather seal on either side, trim weather seal even with bottom section.



4

## Bottom Corner Brackets

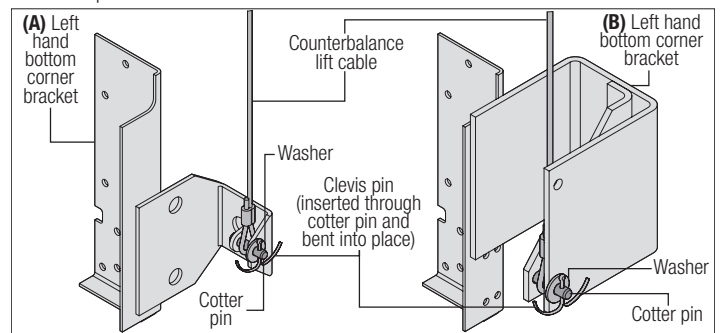
Tools: Power Drill, 9/32" Drill Bit, Socket Driver 7/16", Wrench 7/16"

**NOTE:** Refer to Door Section Identification / Parts Breakdown.

### WARNING

**FAILURE TO ENSURE TIGHT FIT OF CABLE LOOP OVER COTTER PIN COULD RESULT IN COUNTERBALANCE LIFT CABLE COMING OFF THE PIN, ALLOWING THE DOOR TO FALL, POSSIBLY RESULTING IN SEVERE OR FATAL INJURY.**

With the bottom section facing down from the previous step, uncoil the counterbalance lift cables. Starting on the left hand side, place the cable loop into position between the two holes on the side of the left hand bottom corner bracket. Slide a clevis pin through the innermost hole, cable loop, and outermost hole, of the bottom corner bracket. Slide a washer onto the clevis pin and secure in place by inserting a cotter pin into the hole of the clevis pin. Bend the ends of the cotter pin outwards to secure it in place. Repeat for other bottom corner bracket. Repeat for other side.

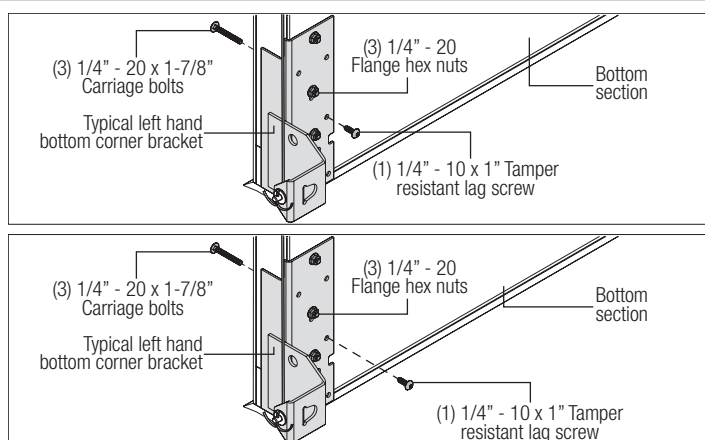


Next, starting on the left hand side, align the left hand bottom corner bracket horizontally with the bottom edge of the bottom section and also align the bottom corner bracket vertically with the left bottom edge of the bottom section. Using the bottom corner bracket as a template, mark and pre-drill 9/32" diameter holes through the bottom section. Attach the bottom corner bracket to the bottom section using 1/4"-20 x 1-7/8" carriage bolts and 1/4"-20 flange hex nuts, as shown. Repeat the same process for other side. Mark and drill a pilot holes 1" deep into the bottom section with a 1/8" drill bit. Secure the bottom corner brackets to the bottom section using (1) 1/4"-14 x 1" tamper resistant lag screw, as shown. Repeat the same process for the right hand side.

**IMPORTANT:** BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

**NOTE:** All doors are provided with the tamper resistant fastener for the bottom corner brackets. However, the professional installer is most likely to have the proper tool to install this fastener. If the homeowner does not have the proper tool to install the tamper resistant fastener, use a regular 1/4"-20 x 1-7/8" carriage bolt and a 1/4"-20 flange hex nut in its place.

If applicable, insert a short stem track roller into each of the bottom corner brackets, as shown.



5

## Track Roller Carriers

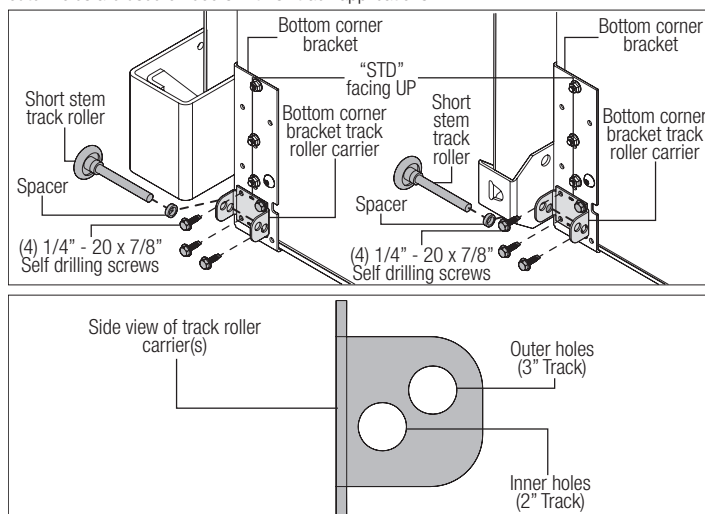
Tools: Power Drill, 9/32\" Drill Bit, Socket Driver 7/16\", Wrench 7/16\"

Starting on left hand side of the bottom section, attach the track roller carrier with the stamp **“STD” facing UP** to the bottom corner bracket by aligning the four holes of the track roller carrier with the four holes in the bottom corner bracket. Secure the track roller carrier to the bottom corner bracket with (4) 1/4\"-20 x 7/8\" self drilling screws or (4) 1/4\"-14 x 1\" lag screws.

**NOTE:** Depending on your door, some track roller carriers will use 1/4\"-14 x 1\" lag screws instead of the 1/4\"-20 x 7/8\" self drilling screws to secure in place. If this is the case, mark and pre-drill (4) 1/8\" diameter holes and secure the track roller carrier to the bottom corner bracket and bottom section using (4) 1/4\"-14 x 1\" lag screws.

Insert a short stem track roller and spacer into the inner holes. Repeat the same process for the right hand side.

**NOTE:** The track roller carrier's inner holes are used on doors with 2\" track applications; the outer holes are used on doors with 3\" track applications.



6

## Strutting

Tools: Power Drill, 1/8\" Drill Bit, Socket Driver 7/16\", Tape Measure

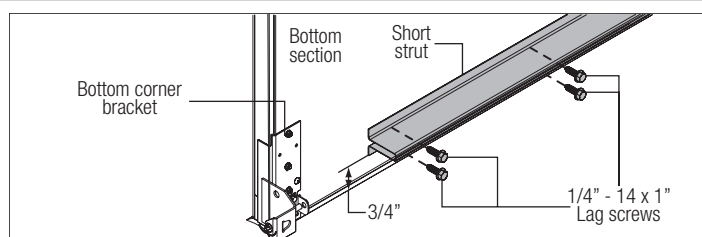
**NOTE:** Refer to the Door Section Identification and Strut Identification, to determine if the bottom section requires a short strut to be installed.

Lay the short strut onto the bottom rail of the bottom section. Position the bottom of the strut 3/4\" up from the bottom edge of the bottom section. Center the short strut from side to side on the section surface.

Drill pilot holes, 1\" deep into the bottom section using a 1/8\" drill bit.

**IMPORTANT:** BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1\" DEEP.

Attach the strut using (2) 1/4\"-14 x 1\" lag screws at each on each end and center stile (aligned with hinges) locations.



7

## Graduated End And Center Hinges

Tools: Power Drill, 1/8\"/9/32\" Drill Bit, Socket Driver 7/16\", Tape

**NOTE:** Refer to the Door Section Identification, Graduated End Hinge and Strut Identification, to determine the appropriate hinges and or struts for your sections.

Using the appropriate graduated end hinges for the ends and depending on the width of your door, enough center hinge(s) for each pre-drilled hole location.

Starting at the upper left hand corner of the bottom section. Position the lower hinge leaf of the appropriate graduated end hinge onto the upper corner of the bottom section. Align the slots of the lower hinge leaf with the pre-drilled holes in the bottom section. Next, lay a long strut (if applicable) over the lower hinge leaf and over the top rail of the bottom section. Center the long strut from side to side, as shown.

### FOR SINGLE GRADUATED END HINGES WITHOUT A STRUT:

Starting on the left hand side, attach the upper slot of the graduated end hinge to the bottom section using (1) 1/4\"-20 x 1-7/8\" carriage bolt and (1) 1/4\"-20 flange hex nut. Next, secure the lower slot of the graduated end hinge to the bottom section using (1) 1/4\"-20 x 1-7/8\" carriage bolt and (1) 1/4\"-20 flange hex nut, as shown. Repeat same process for other side.

### FOR SINGLE GRADUATED END HINGES WITH A STRUT (IF APPLICABLE):

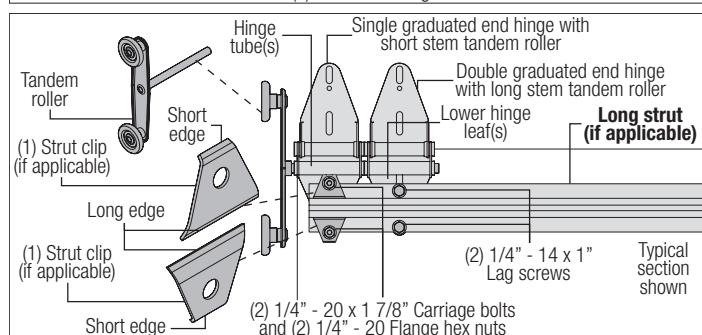
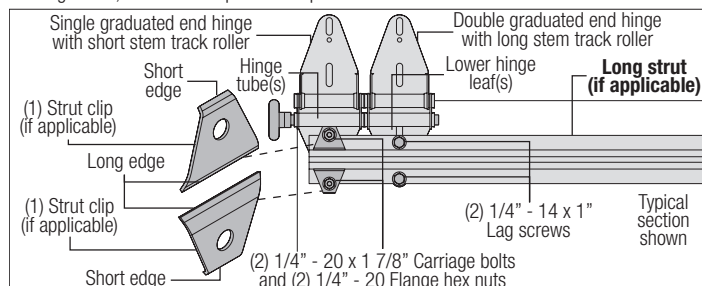
Starting on the left hand side, attach the upper slot of the graduated end hinge, (1) strut clip and the upper leg of strut to the bottom section using (1) 1/4\"-20 x 1-7/8\" carriage bolt and (1) 1/4\"-20 flange hex nut. Next secure the bottom leg of strut, the lower slot of the graduated end hinge to the bottom section (1) 1/4\"-20 x 1-7/8\" carriage bolt and (1) 1/4\"-20 flange hex nut, as shown. Repeat same process for other side.

### FOR DOORS WITH DOUBLE GRADUATED END HINGES:

Position the second graduated end hinge next to the first (single) graduated end hinge. Using the second graduated end hinge as a template, drill pilot holes, 1\" deep into the bottom section with a 1/8\" drill bit.

**IMPORTANT:** BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1\" DEEP.

Attach the upper leg of strut (if applicable) to the upper slot of the graduated end hinge to the bottom section using (1) 1/4\"-14 x 1\" lag screw. Next secure the bottom leg of strut (if applicable) to the lower slot of the graduated end hinge to the bottom section using (1) 1/4\"-14 x 1\" lag screw, as shown. Repeat same process for other side.



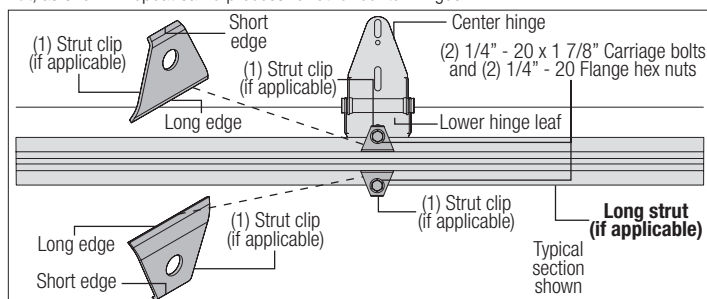
### FOR CENTER HINGES WITHOUT A STRUT:

Starting on the left hand side, attach the upper slot of the center hinge to the bottom section using (1) 1/4\"-20 x 1-7/8\" carriage bolt and (1) 1/4\"-20 flange hex nut. Next, secure the lower slot of the center hinge to the bottom section using (1) 1/4\"-20 x 1-7/8\" carriage bolt and (1) 1/4\"-20 flange hex nut, as shown. Repeat same process for other center hinges.

### FOR CENTER HINGES WITH A STRUT (IF APPLICABLE):

Starting on the left hand side, attach the upper slot of the center hinge, (1) strut clip and

the upper leg of strut to the bottom section using (1) 1/4"-20 x 1-7/8" carriage bolt and (1) 1/4"-20 flange hex nut. Next secure the bottom leg of strut, the lower slot of the center hinge to the bottom section (1) 1/4"-20 x 1-7/8" carriage bolt and (1) 1/4"-20 flange hex nut, as shown. Repeat same process for other center hinges.



If you have single graduated end hinges, insert a short stem track roller / short stem tandem track roller (if included) into the hinge tube on each side.

If you have double graduated end hinges, insert a long stem track roller / short stem tandem track roller (if included) into the hinge tubes on each side.

**IMPORTANT:** WHEN PLACING TRACK ROLLERS / TANDEM TRACK ROLLER (IF INCLUDED) INTO GRADUATED END HINGES NUMBER 2 AND HIGHER, THE TRACK ROLLER / TANDEM TRACK ROLLER (IF INCLUDED) GOES INTO TUBE FURTHEST AWAY FROM SECTION.

8

## Half Center Hinges

Tools: Power drill, 7/16" Socket driver, Tape measure

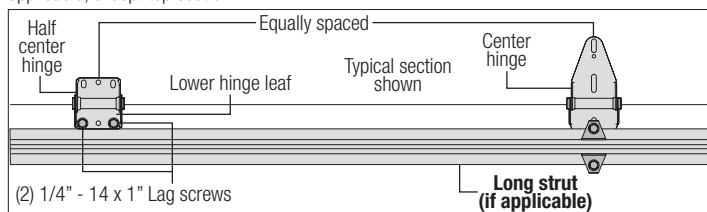
**NOTE:** If you don't have half center hinges, then skip this step. Refer to Package Contents / Parts Breakdown, to determine if you have half center hinges.

Using a tape measure, position the half center hinges equally spaced in between the center hinges and equally spaced in between the center hinges and the graduated end hinges. Position the holes of the lower hinge leaf onto the bottom section surface, as shown. Using the half center hinge as a template, drill pilot holes, 1" deep into the bottom section using a 1/8" drill bit.

**IMPORTANT:** BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

Attach the lower hinge leaf of the center hinge to the bottom section using (2) 1/4"-14 x 1" lag screws. Repeat for other half center hinge(s). Set the bottom section aside.

Place the Intermediate I section face down on a couple of sawhorses or flat clean/ smooth surface. Reference step Graduated End And Center Hinges and this step to attach the long struts (if applicable) and hinges to the top rail of the sections in the same manner as was done for the bottom section. Repeat the same process for the other Intermediate section(s) if applicable, except top section.



9

## Top Fixtures

Tools: Power drill, 7/16" Socket driver

**NOTE:** If your door came with two top fixtures (A), then one top fixture and a short stem track roller are required for each side.

**NOTE:** If your door came with four top fixtures (B), then two top fixtures and a long stem track roller are required for each side.

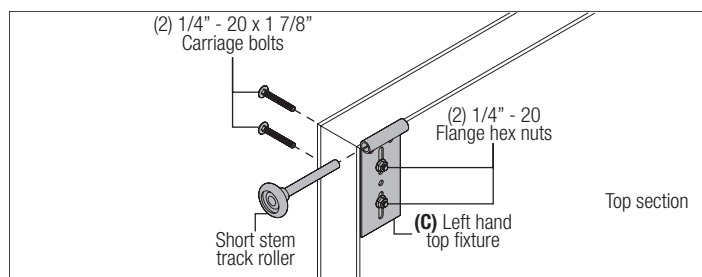
**NOTE:** Refer to Door Section Identification / Parts Breakdown.

Place the top section face down on a couple of sawhorses or flat clean/ smooth surface.

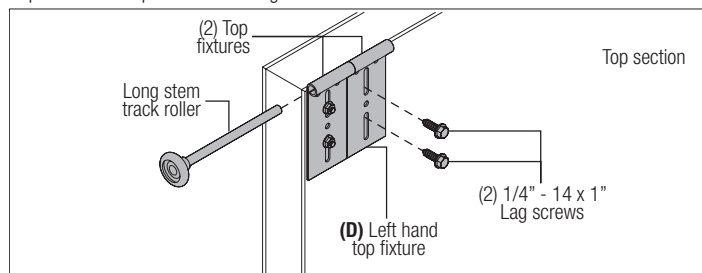
**NOTE:** Depending on your door, refer to illustrations (A) or (B) to determine how to install the top fixtures.

Follow the corresponding steps below:

**(A):** Starting on the left hand side, align the edge of the top fixture parallel to the top section edge. Using the top fixture as a template, mark and pre-drill (2) 9/32" diameter holes through the top section. Loosely attach the top fixture to the top section using (2) 1/4"-20 x 1-7/8" carriage bolts and (2) 1/4"-20 flange hex nuts. Insert a short stem track roller into the top fixture slide. Repeat the same process for the right hand side.



**(B):** Position the second top fixture next to the first installed top fixture and loosely attach it with (2) 1/4" - 14 x 1" lag screws. Insert a long stem track roller into the top fixture slides. Repeat the same process for the right hand side.



10

## Strutting For Top Section

Tools: Power drill, 7/16" Socket driver

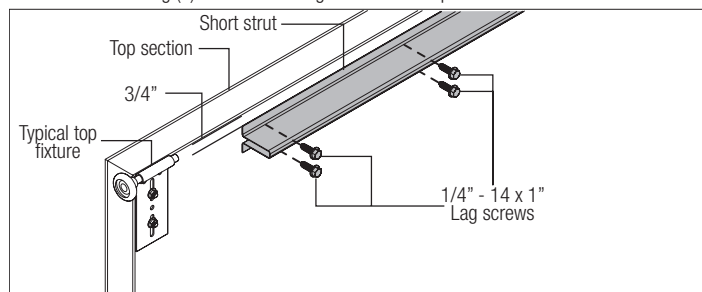
**NOTE:** Refer to Door Section Identification / Parts Breakdown.

Lay a short strut onto the top rail of the top section. Position the top of the strut 3/4" down from the top edge of the top section. Center the short strut from side to side on the section surface.

Drill pilot holes, 1" deep into the top section with a 1/8" drill bit.

**IMPORTANT:** BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

Attach the strut using (1) 1/4"-14 x 1" lag screw at each predrilled hole.



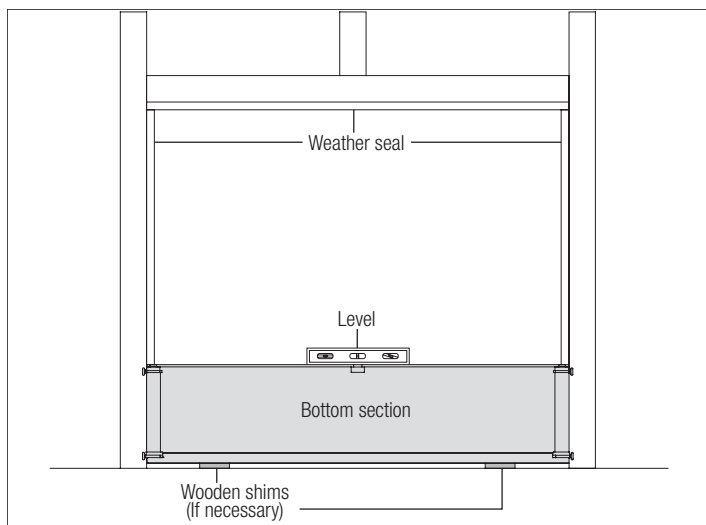
11

## Bottom Section

Tools: Level, Wooden shims (if necessary)

Center the bottom section in the door opening. Level the section using wooden shims (if necessary) under the bottom section.





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## Vertical Tracks

Tools: Power Drill, 3/16" Drill bit, 7/16" Socket driver, Tape measure,

**IMPORTANT:** IF YOUR DOOR IS TO BE INSTALLED PRIOR TO A FINISHING CONSTRUCTION OF THE BUILDING'S FLOOR, THE VERTICAL TRACKS AND THE DOOR BOTTOM SECTION ASSEMBLY SHOULD BE INSTALLED SUCH THAT WHEN THE FLOOR IS CONSTRUCTED, NO DOOR OR TRACK PARTS ARE TRAPPED IN THE FLOOR CONSTRUCTION.

**IMPORTANT:** THE TOPS OF THE VERTICAL TRACKS MUST BE LEVEL FROM SIDE TO SIDE. IF THE BOTTOM SECTION WAS SHIMMED TO LEVEL IT, THE VERTICAL TRACK ON THE SHIMMED SIDE MUST BE RAISED THE HEIGHT OF THE SHIM.

Position the left hand vertical track assembly / wall angle track assembly over the track rollers of the bottom section. Make sure the counterbalance lift cable is located between the track rollers and the door jamb. Drill 3/16" pilot holes into the door jamb for the lag screws.

### FOR FLAG ANGLE TRACK ASSEMBLIES:

Loosely fasten jamb brackets and flag angle to the jamb using 5/16" x 1-5/8" lag screws, as shown.

### FOR WALL ANGLE TRACK ASSEMBLY:

Loosely fasten wall angle to the jamb using 5/16" x 1-5/8" lag screws, as shown.

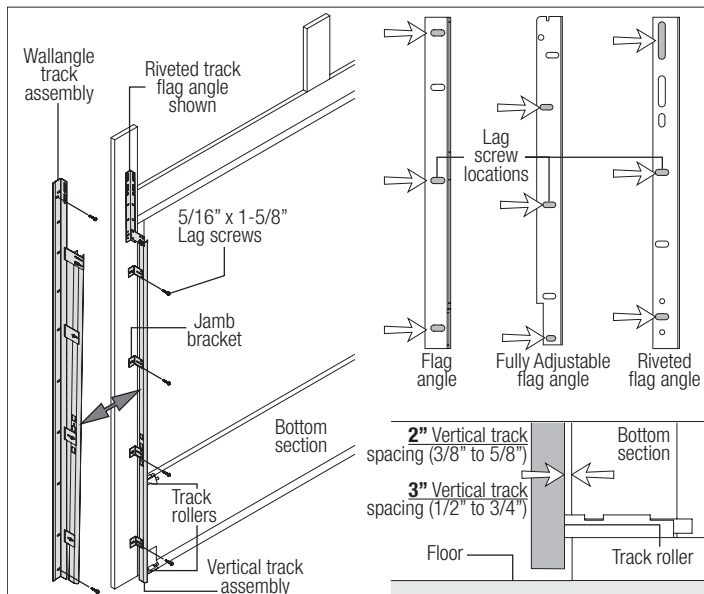
### IF YOU HAVE 2" VERTICAL TRACKS:

Tighten lag screws, securing the bottom jamb bracket/bottom slot to jamb, maintain 3/8" to 5/8" spacing, between the bottom section and vertical track.

### IF YOU HAVE 3" VERTICAL TRACKS:

Tighten lag screws, securing the bottom jamb bracket/bottom slot to jamb, maintain 1/2" to 3/4" spacing, between the bottom section and vertical track.

Hang counterbalance lift cable over flag angle/wall angle. Repeat same process for other side.



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## Stacking Sections

Tools: Power drill, 7/16" Socket driver

**NOTE:** Make sure graduated end and center hinges are flipped down, when stacking another section on top.

With assistance, lift intermediate I (second) section and guide the track rollers / tandem rollers into the vertical tracks. Lower section until it is seated against bottom section. Keep sections aligned. Repeat same process for other sections, except top section.

### FOR GRADUATED END HINGES AND CENTER HINGES:

Starting with the outer graduated end hinges, flip the upper hinge leaf up and secure to the section using (2) 1/4"-20 x 1-7/8" carriage bolts and (2) 1/4"-20 flange hex nuts. Repeat same process for the center hinges.

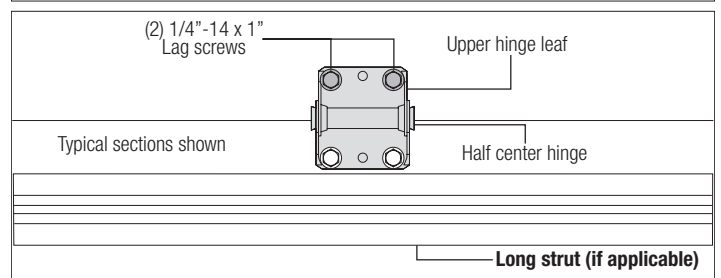
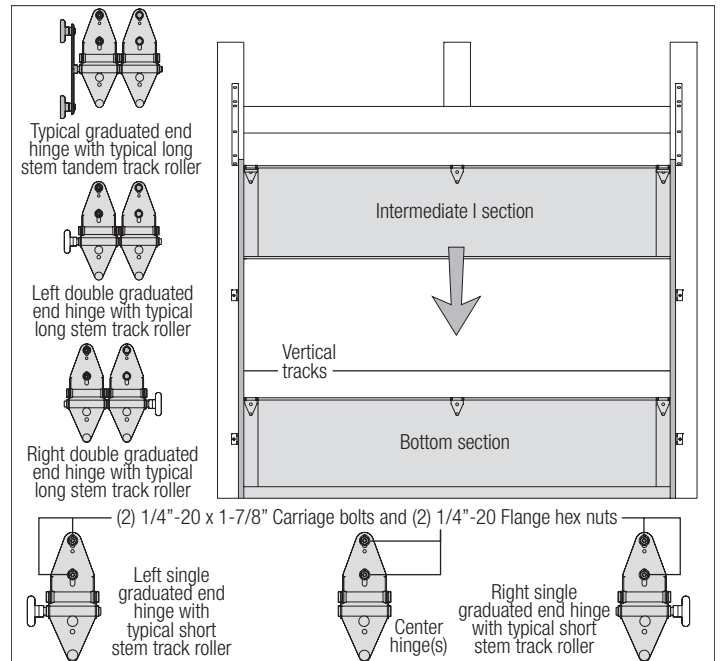
If you have double graduated end hinges, flip the inner upper hinge leaf up and use it as a template. Mark and pre-drill (2) 1/8" pilot holes, 1" deep into the section using a 1/8" drill bit. Attach the upper hinge leaf to the section using (2) 1/4"-14 x 1" lag screws. Repeat same process for other side.

### IF YOU HAVE HALF CENTER HINGES:

Flip the upper hinge leaf up and use it as a template. Mark and pre-drill (2) 1/8" pilot holes, 1" deep into the section using a 1/8" drill bit. Attach the upper hinge leaf to the section using (2) 1/4"-14 x 1" lag screws. Repeat same process for other half center hinges.

**IMPORTANT:** BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

**IMPORTANT:** PUSH & HOLD THE HINGE LEAFS SECURELY AGAINST THE SECTIONS WHILE SECURING WITH 1/4"-20 X 1-7/8" CARRIAGE BOLTS AND 1/4"-20 FLANGE HEX NUTS. THERE SHOULD BE NO GAP BETWEEN THE HINGE LEAFS AND THE SECTIONS.



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## Top Section

Tools: Hammer, Step ladder, Tape measure

Place the top section in the opening. Temporarily secure the top section by driving a nail into the header near the center of the door and bending it over the top section. Now, flip up the graduated end hinge and center hinge leaves, hold tight against section, and fasten center hinges first and end hinges last (refer to step, Stacking Sections). Vertical track alignment is critical. For 2" track, position flag angle/wall angle between 1-11/16" (43 mm) to 1-3/4" (44 mm) from the edge of the door; tighten the bottom lag screw. For 3" track, position flag angle/wall angle between 2-3/16" (56 mm) to 2-1/4" (57 mm) from the edge of the door; tighten the bottom lag screw.

Flag angles/wall angles must be parallel to the door sections. Repeat same process for other



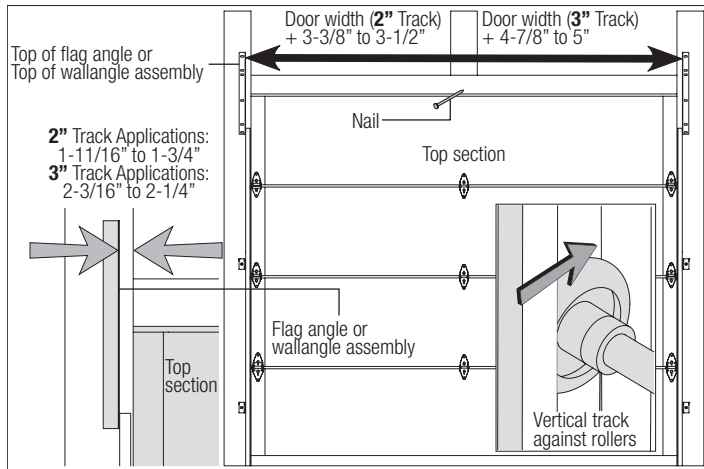
side.

**IMPORTANT:** THE DIMENSION BETWEEN THE FLAG ANGLES MUST BE:

**FOR 2" TRACK APPLICATIONS:** DOOR WIDTH PLUS 3-3/8" (86MM) TO 3-1/2" (89 MM) FOR SMOOTH, SAFE DOOR OPERATION.

**FOR 3" TRACK APPLICATIONS:** DOOR WIDTH PLUS 4-7/8" (124MM) TO 5" (127 MM) FOR SMOOTH, SAFE DOOR OPERATION.

Complete the vertical track installation by securing the jamb bracket(s) or slots in the wall angle and tightening the other lag screws. Push the vertical track against the track rollers so that the track rollers are touching the deepest part of the curved side of the track; tighten all the track bolts and nuts. Repeat for other side.

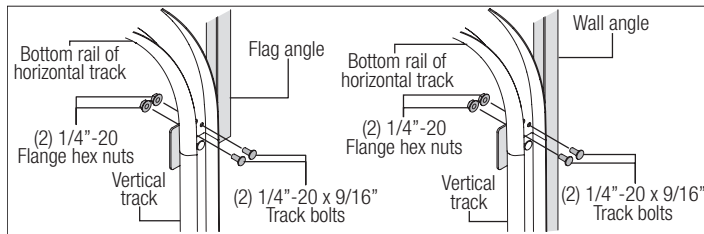


15

## Horizontal Tracks

Tools: Ratchet wrench, 7/16" Socket, 9/16" Socket, 9/16" Wrench,

To install horizontal track, place the curved end over the top track roller of the top section. Align the bottom rail of the horizontal track with the top of the vertical track. Tighten the bottom rail of the horizontal track to the flag angle or wall angle with (2) 1/4"-20 x 9/16" track bolts and (2) 1/4"-20 flange hex nuts.



## WARNING

**DO NOT RAISE DOOR UNTIL HORIZONTAL TRACKS ARE SECURED AT REAR, AS OUTLINED IN STEP, REAR BACK HANGS, OR DOOR COULD FALL FROM OVERHEAD POSITION CAUSING SEVERE OR FATAL INJURY.**

Level the horizontal track assembly.

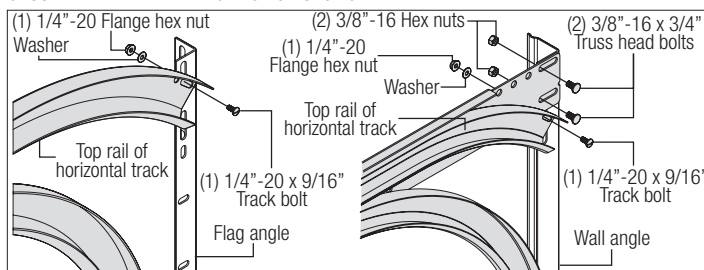
For riveted track assembly, bolt the top rail of the horizontal track to the first encountered slot in the flag angle using (1) 1/4"-20 x 9/16" track bolt, (1) washer and (1) 1/4"-20 flange hex nut.

For wall angle track assembly, first bolt the angle of the horizontal track to the slots in the wall angle using (2) 3/8"-16 x 3/4" truss head bolts and (2) 3/8"-16 hex nuts. Now secure the top rail of the horizontal track to the wall angle using (1) 1/4"-20 x 9/16" track bolt, (1) washer and (1) 1/4"-20 flange hex nut.

Repeat for other side.

Remove the nail that was temporarily holding the top section in place, installed in step, Top Section.

**IMPORTANT:** FAILURE TO REMOVE NAIL BEFORE ATTEMPTING TO RAISE DOOR COULD CAUSE PERMANENT DAMAGE TO TOP SECTION.



16

## Adjusting Top Fixtures

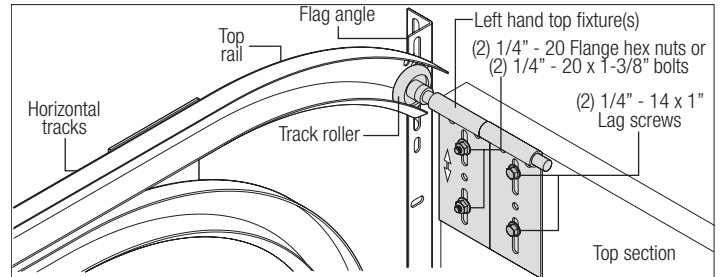
Tools: 7/16" Wrench, Step ladder

With horizontal tracks installed, you can now adjust the top fixtures.

**NOTE:** If your door came with two top fixtures, then one top fixture is required to be adjusted for each side.

**NOTE:** If your door came with four top fixtures, then two top fixtures are required to be adjusted for each side.

Starting on the left hand side, vertically align the top section of the door with the lower sections. Maintaining the top fixture(s) position, tighten the 1/4"-20 flange hex nuts or 1/4"-20 x 1-3/8" bolts and or 1/4"-14 x 1" lag screws to secure the top fixture(s) to the top section. Repeat for other side



17

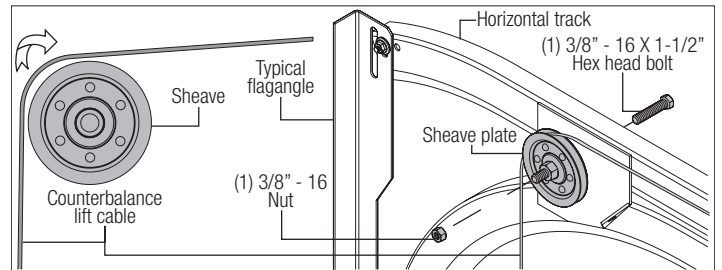
## Cable Lift Sheaves

Tools: Ratchet Wrench, 3/8" Socket, 3/8" Wrench

Using the illustrations below, identify which cable lift sheave assemblies were provided with your door.

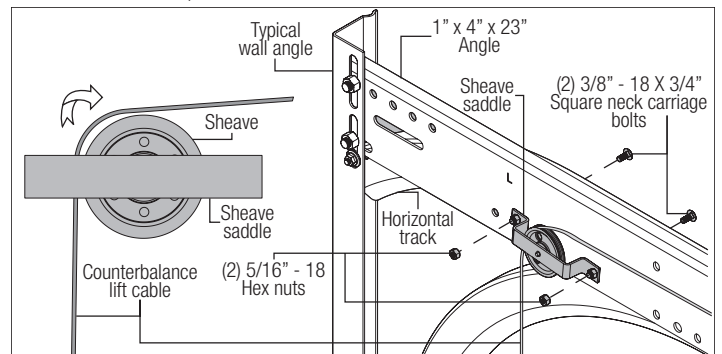
For Cable Sheave Assemblies without Sheave Saddle:

Place a 3/8"-16 x 1-1/2" hex head bolt through the hole in the sheave plate. Next insert the sheave over the end of the bolt. Secure the sheave to the sheave plate with a 3/8"-16 nut. Repeat the same process for the other side. Then loop the counterbalance cables over each sheave, as shown.



For Cable Sheave Assemblies With Sheave Saddle:

Position the sheave saddle over the 1" x 4" x 23" angle and align the slots in the sheave saddle with the corresponding holes in the 1" x 4" x 23" angle. While holding the sheave saddle in place, insert (1) 5/16"-18 x 3/4" square neck carriage bolt through each of the aligned holes and secure the assembly with 5/16"-18 hex nuts. Repeat the same process for the other side. Then loop the counterbalance cables over each sheave, as shown.



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## Rear Back Hangs

Tools: Ratchet Wrench, 1/2" Socket, Tape Measure, 1/2" Wrench, Vice

Using perforated angles, 1-5/8" lag screws and 5/16" bolts with nuts, fabricate rear back hangs for horizontal tracks. **NOTE:** These items may not have been supplied. Attach horizontal tracks to the rear back hangs with two 5/16"-18 x 1" hex head bolts and nuts. Horizontal tracks must be level and parallel with door.

**NOTE:** Ensure the two 5/16"-18 x 1" hex head bolts are going through the vertical piece

first, then through the rear support bracket and the 5/16"-18 nuts are in the inside of the horizontal track.

Attach rear back hangs to ceiling joist or other structurally sound framing members. Brace rear back hangs.

**NOTE:** Doors heights over 8'0" or door widths over 11'0", require an additional set of center back hangs to be installed and located at the middle of the horizontal tracks, see parts breakdown.

Using perforated angle (may not be supplied), (2) 5/16" x 1-5/8" hex head lag screws and (3) 5/16" bolts with nuts (may not be supplied), fabricate center back hangs for the horizontal tracks. Measure and drill a 3/8" diameter hole through the center length of the horizontal track, as shown. Attach the center back hangs to the horizontal tracks with (1) 3/8" Truss head bolt and (1) 3/8" nut (may not be supplied).

## ⚠ WARNING

**KEEP HORIZONTAL TRACKS PARALLEL AND WITHIN 3/4" TO 7/8" MAXIMUM OF DOOR EDGE, OTHERWISE DOOR COULD FALL, RESULTING IN SEVERE OR FATAL INJURY.**

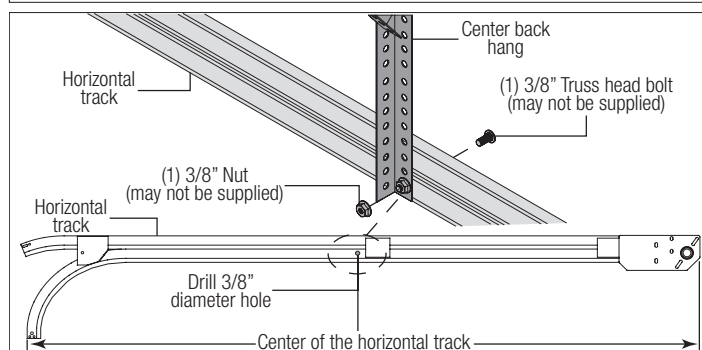
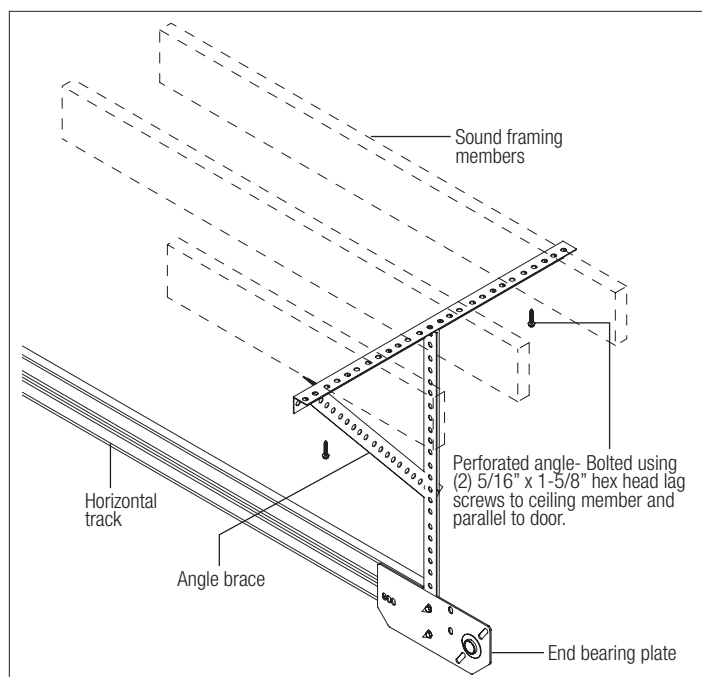
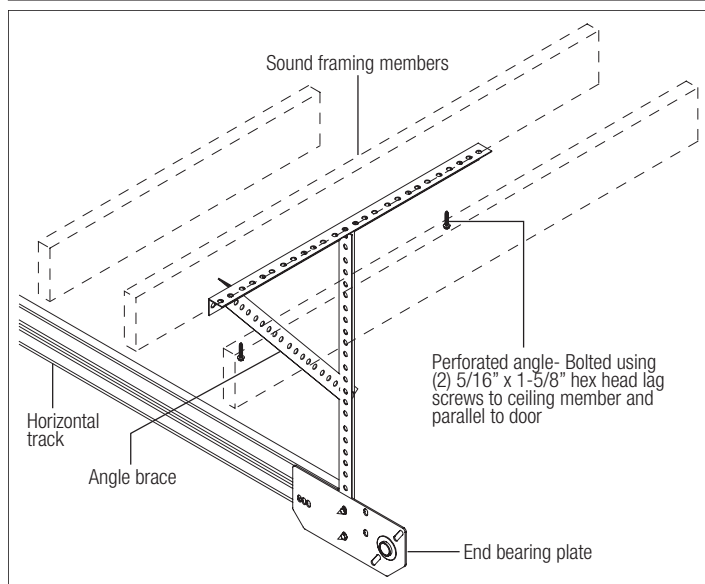
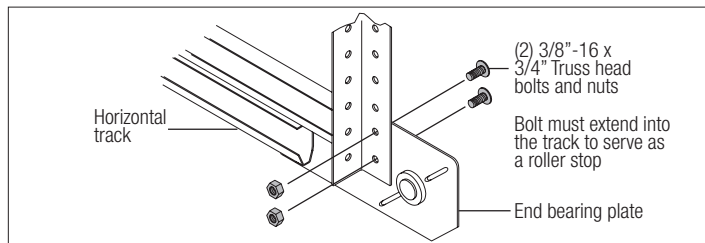
**IMPORTANT!** LATERAL BRACE MUST ALWAYS BE USED TO PREVENT SWAYING OF THE HORIZONTAL TRACK.

**IMPORTANT!** SPACING BETWEEN THE LEFT HAND AND THE RIGHT END BEARING BRACKETS MUST BE DOOR WIDTH PLUS 3-1/2".

**IMPORTANT:** DO NOT SUPPORT THE WEIGHT OF THE DOOR ON ANY PART OF THE REAR OR CENTER BACK HANGS THAT CANTILEVERS 4" OR MORE BEYOND A SOUND FRAMING MEMBER.

**NOTE:** If rear or center back hangs are to be installed over drywall, use (2) 5/16" x 2" hex head lag screws and make sure lag screws engage into solid structural lumber.

**NOTE:** 26" angle must be attached to sound framing members and **nails should not be used.**



## 19

### Torsion Spring Assembly

Tools: Ratchet Wrench, 3/8" Socket, 3/8", 9/16" Wrench

**IMPORTANT:** RIGHT AND LEFT AND IS ALWAYS DETERMINED FROM INSIDE THE GARAGE LOOKING OUT.

**NOTE:** The set screws used on all torsion counterbalance winding cones and cable drums, are now colored red. DO NOT identify right and left hand by the set screw color.

**NOTE:** Depending on your door, there may be letters stenciled onto the spring which refer to right hand wound and left hand wound.

**IMPORTANT:** IDENTIFY THE SPRINGS PROVIDED AS EITHER RIGHT HAND WOUND (RED WINDING CONE), WHICH GOES ON THE RIGHT HAND SIDE OR LEFT HAND WOUND (BLACK WINDING CONE), WHICH GOES ON THE LEFT HAND SIDE.

**IMPORTANT:** REFERENCE THE ILLUSTRATIONS FOR PROPER SPRING POSITIONING WHEN MORE THAN 2 SPRINGS ARE PROVIDED.

**IMPORTANT:** ON SINGLE SPRING APPLICATIONS, ONLY A LEFT HAND WOUND (BLACK WINDING CONE), WHICH GOES ON THE LEFT HAND SIDE IS REQUIRED.

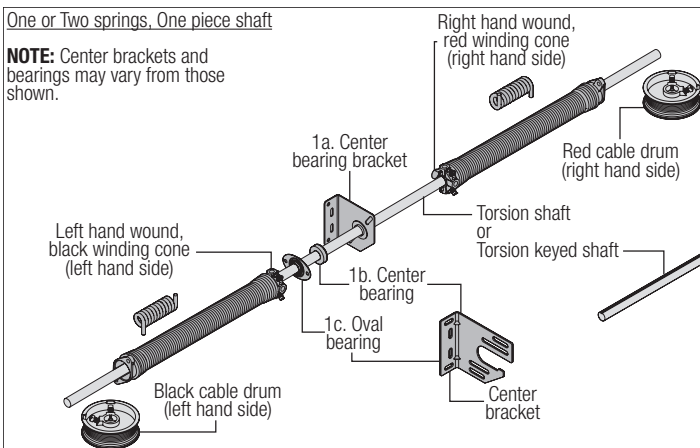
Facing the inside of the door, either lay the torsion shaft/torsion keyed shaft on the floor or lay the (2) torsion keyed shafts on the floor, one torsion keyed shaft on the left hand side and the other torsion keyed shaft on the right hand side.

**IMPORTANT:** DEPENDING ON YOUR DOOR APPLICATION, USE ONE OF THE THREE ILLUSTRATION'S, SHOWN BELOW TO ASSEMBLE YOUR TORSION COUNTERBALANCE SYSTEM.

**1.** Lay the torsion spring with the black winding cone and the black cable drum at the left end of the torsion shaft or the torsion keyed shaft. Lay the torsion spring with the red winding cone and the red cable drum at the right end of the torsion shaft or the torsion keyed shaft. Next, lay the center bearing bracket, the center bearing or the oval bearing at the center of the torsion shaft/torsion keyed shaft.

### One or Two springs, One piece shaft

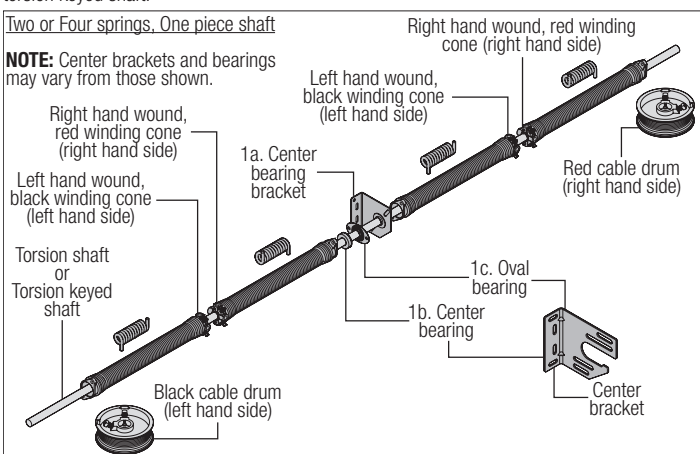
**NOTE:** Center brackets and bearings may vary from those shown.



2. Lay the torsion spring with the red winding cone at the left end of the torsion shaft/torsion keyed shaft. Next, lay the torsion spring with the black winding cone at the left end of the torsion shaft/torsion keyed shaft. Lay the torsion spring with the black winding cone at the right end of the torsion shaft/torsion keyed shaft. Next, lay the torsion spring with the red winding cone at the right end of the torsion shaft/torsion keyed shaft. Next, lay the center bearing bracket, the center bearing or the oval bearing at the center of the torsion shaft/torsion keyed shaft.

### Two or Four springs, One piece shaft

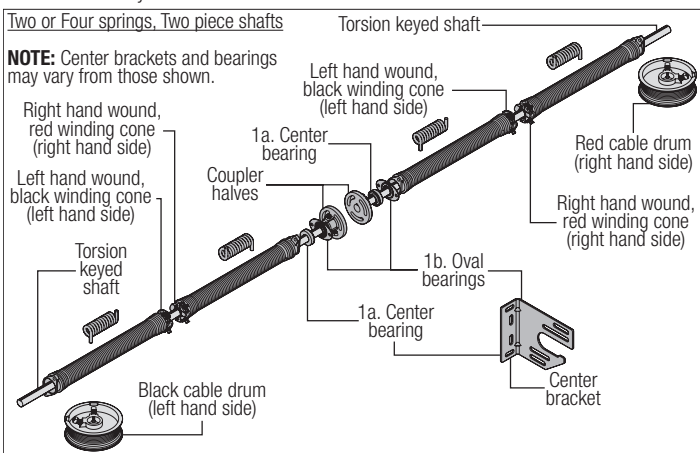
**NOTE:** Center brackets and bearings may vary from those shown.



3. Starting on the left hand torsion keyed shaft, lay the torsion spring with the red winding cone at the right end of the torsion keyed shaft. Next, lay the torsion spring with the black winding cone at the left end of the torsion keyed shaft. Next, starting on the right hand torsion keyed shaft, lay the torsion spring with the black winding cone at the left end of the torsion keyed shaft. Next, lay the torsion spring with the red winding cone at the right end of the torsion keyed shaft. Next, lay either the center bearings or the oval bearings in between the two torsion keyed shafts.

### Two or Four springs, Two piece shafts

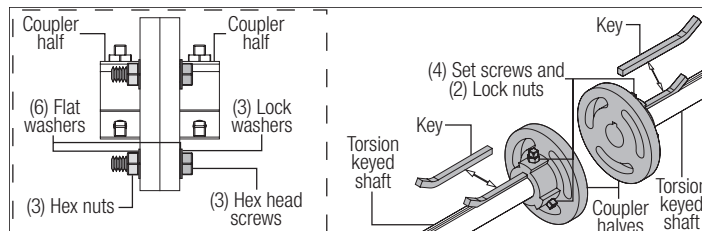
**NOTE:** Center brackets and bearings may vary from those shown.



Disassemble the coupler assembly by removing the hex head screws, the lock washers, the flat washers and the hex nuts from the coupler halves. Loosen the set screws. Set the components aside. Next, slide the flat edge of the couple half flush with the side edge of the torsion keyed shaft. Insert (1) keyed shaft into the slot of both the coupler half and the slot in the torsion keyed shaft, as shown. Tighten the (2) set screws and the locking nut to secure the coupler half to the torsion keyed shaft.

**NOTE:** Tighten the set screws to 14-15 ft. lbs. of torque (once set screws contact the shaft, tighten set screws one full turn).

Repeat the same process for the other side.



Slide either the center bearing bracket or the center bearing(s) or the oval bearing(s) onto the torsion shaft/torsion keyed shaft(s) followed by the torsion spring(s).

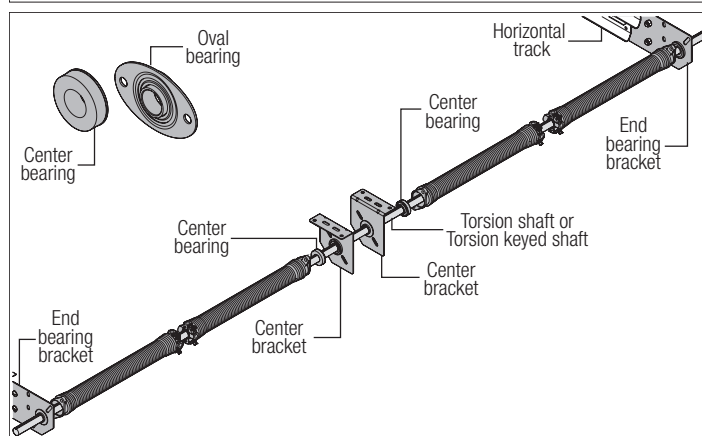
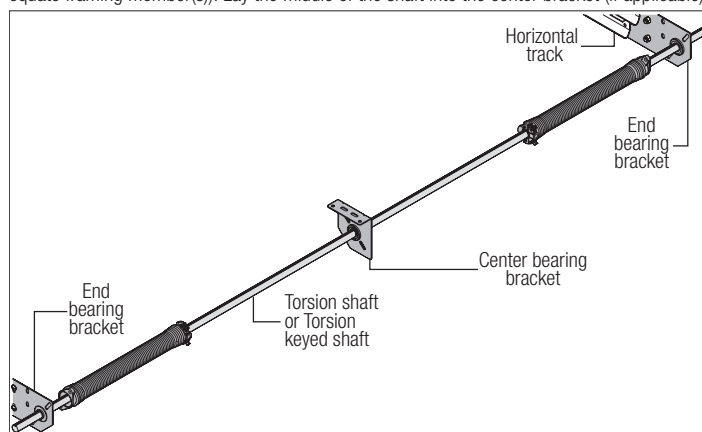
**IMPORTANT:** THE CENTER BEARING BRACKET, THE CENTER BEARING(S), THE OVAL BEARING(S), THE COUPLER HALF'S AND THE TORSION SPRINGS, MUST BE POSITIONED, AS SHOWN.

## WARNING

**CENTER BEARING BRACKETS WITH SPRINGS MUST BE SECURELY FASTENED INTO SOLID STRUCTURAL MEMBERS ONLY AND MUST BE ADEQUATELY REINFORCED TO HOLD THE LOAD OF TORSION SPRING ASSEMBLIES. FAILURE TO DO SO CAN CAUSE SEVERE OR FATAL INJURY.**

If you have a Torsion Shaft or a Torsion Keyed Shaft:

With assistance, pick up the torsion spring assembly and slide one end of the shaft through the end bearing bracket. Extend the shaft through the bearing until the opposite end of the shaft can be inserted into the other end bearing bracket. Secure the center bearing bracket to the ceiling using perforated angle (refer to Step Rear Back Hangs) or wood blocking (adequate framing member(s)). Lay the middle of the shaft into the center bracket (if applicable).



If you have two Torsion Keyed Shafts:

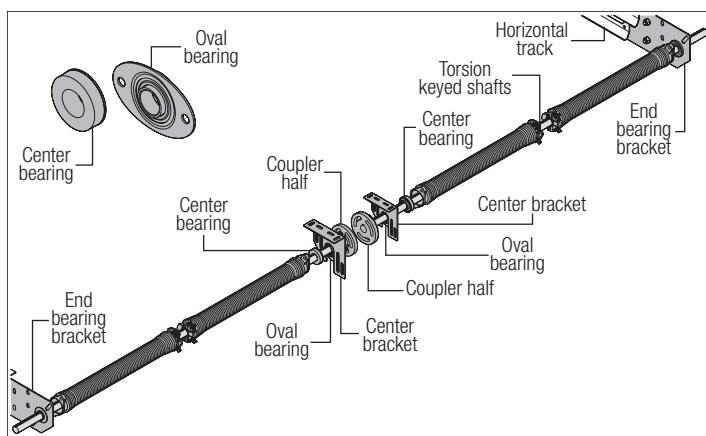
With assistance, pick up the left hand torsion spring assembly and slide one end of the torsion keyed shaft through the end bearing bracket and secure the center bearing bracket to the ceiling using perforated angle (refer to Step Rear Back Hangs) or wood blocking (adequate framing member(s)). Lay the inner most part of the shaft into the center bracket (if applicable).

Secure center bearing bracket(s) to adequate framing member at the center of torsion shaft using (3) 5/16" x 2" lag screws.

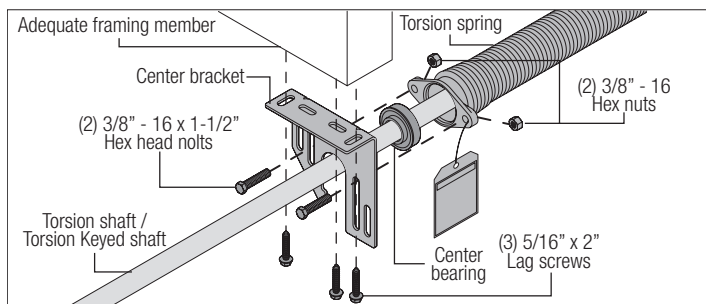
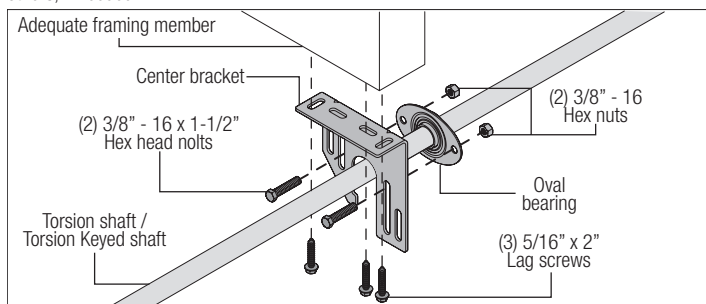
**NOTE:** If your door came with a coupler assembly, the (2) center bearing brackets will need to be spaced 12" to 14" apart, at the center of the door.

**IMPORTANT:** USE A 5/16" X 1-5/8" TAMPER-RESISTANT LAG SCREW INSTEAD OF THE 5/16" X 2" TAMPER-RESISTANT LAG SCREW IF MOUNTING SURFACE IS MOUNTED OVER MASONRY. TAMPER-RESISTANT LAG SCREW MUST BE ATTACHED THROUGH THE BOTTOM HOLE OF THE CENTER BEARING BRACKET.

Repeat the same process for the right hand torsion spring assembly.



If your door came with oval bearing(s), loosely attach the oval bearing to the center bracket with (2) 3/8"-16 x 1-1/2" hex head bolts and (2) 3/8"-16 hex nuts, as shown. Repeat for others, if needed.



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## Torsion Spring Attachment

Tools: Ratchet Wrench, 3/8" Socket, 3/8", 9/16" Wrench

For Doors without Coupler Assembly:

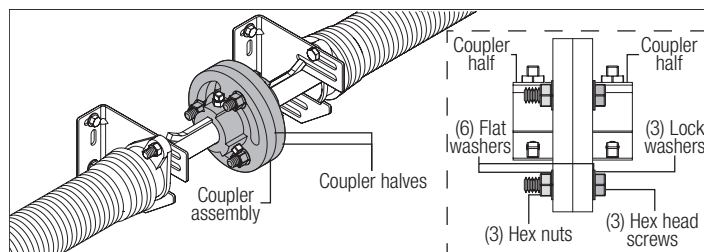
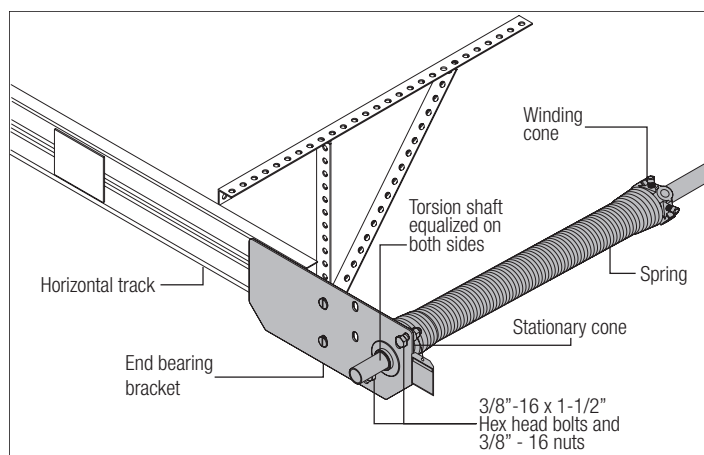
Equalize the amount that the torsion shaft/torsion keyed shaft protrudes on each side. Align the stationary cone(s) of the torsion springs with the slots in the end bearing brackets and secure using (2) 3/8"-16 x 1-1/2" hex head bolts and nuts.

For Doors with a Coupler Assembly:

At the middle of the two center bearing brackets, re-assemble the coupler assembly by loosely fastening the coupler halves together re-using the hex head screws, the lock washers, the flat washers and the hex nuts, as shown.

**NOTE:** Ensure both torsion keyed shafts have equal amounts of the shafts extending from each end bearing brackets.

Next, align the stationary cone(s) of the torsion springs with the slots in the center bearing brackets and secure using (2) 3/8"-16 x 1-1/2" hex head bolts and nuts. Repeat for opposite side. Secure all oval bearing(s), to the center bracket with (2) 3/8"-16 x 1-1/2" hex head bolts and (2) 3/8"-16 hex nuts. Insert bearing(s) into stationary cone and attach center bracket(s) to the torsion spring(s) using (2) 3/8"-16 x 1-1/2" bolts and (2) 3/8"-16 hex nuts. Repeat for others.



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## Counterbalance Lift Cables

Tools: Locking pliers, 3/8" Wrench

**IMPORTANT:** RIGHT AND LEFT AND IS ALWAYS DETERMINED FROM INSIDE THE GARAGE LOOKING OUT.

Slide the black cable drum against the left hand end bearing bracket. Thread the counterbalance lift cable up and over the sheave and the black cable drum and position the cable drum and counterbalance lift cable, as shown. Hook the cable into the drum.

**NOTE:** For doors with a torsion keyed shaft, insert (1) key into the slot of both the black cable drum and the slot in the torsion keyed shaft, as shown.

Tighten the set screws in the black cable drum to 14-15 ft. lbs. of torque (once set screws contact the shaft, tighten screws one full turn). Slide the red cable drum against the right hand end bearing bracket.

Rotate the right hand drum and torsion shaft until counterbalance lift cable is taut. Apply locking pliers to track above third roller to prevent door movement and to keep counterbalance lift cables taut. Thread the counterbalance lift cable up and over the red cable drum and position the cable drum and counterbalance lift cable, as shown. Hook the cable into the drum.

**NOTE:** For doors with a torsion keyed shaft, insert (1) key shaft into the slot of both the red cable drum and the slot in the torsion keyed shaft, as shown.

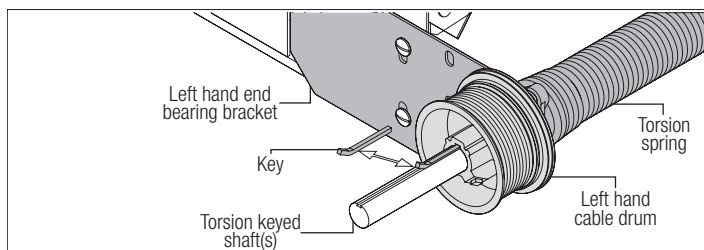
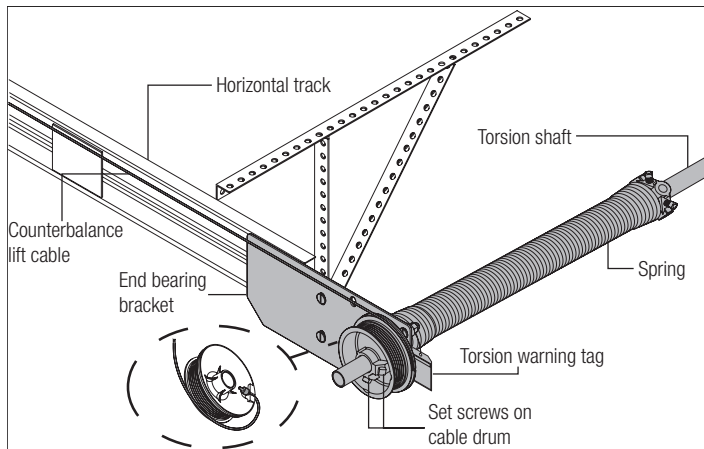
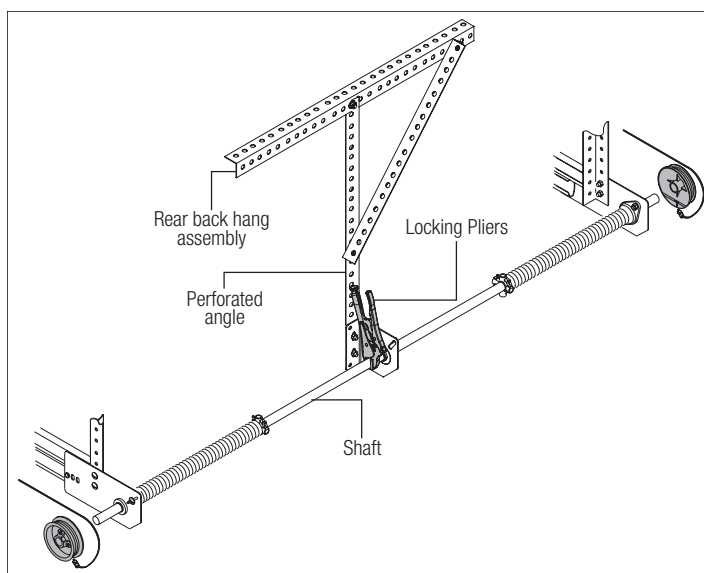
Tighten the set screws in the red cable drum to 14-15 ft. lbs. of torque (once set screws contact the tube, tighten screws one full turn).

**IMPORTANT:** CHECK EACH COUNTERBALANCE LIFT CABLE, MAKING SURE BOTH ARE SEATED PROPERLY ON THE SHEAVES, CABLE DRUMS, ARE SECURELY ATTACHED TO THE BOTTOM CORNER BRACKETS AND BOTH SIDES HAVE EQUAL COUNTERBALANCE LIFT TENSION.

Rotate the left hand drum and torsion shaft until counterbalance lift cable is taut. Now attach locking pliers to the torsion shaft and brace locking pliers against the perforated angle of the rear back hangs to keep counterbalance lift cable taut. Repeat the same process for right hand side.

Now, secure the coupler assembly by tightening the (3) hex head screws and the (3) hex nuts.





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## Securing Door for Spring Winding

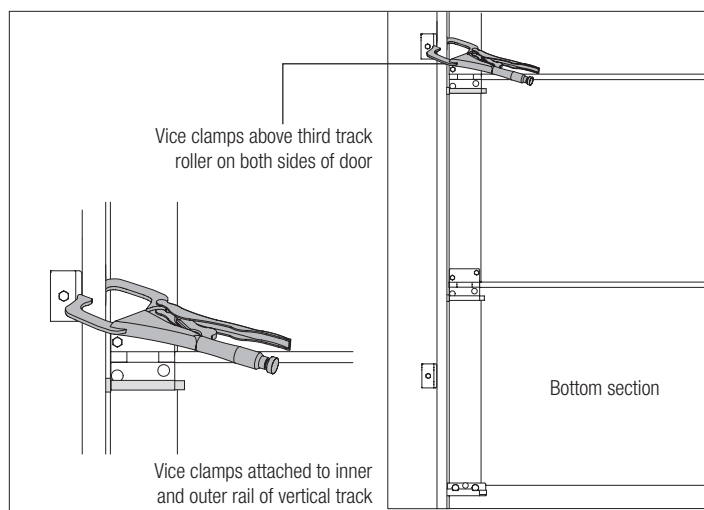
Tools: Vice Clamps

Place vice clamps onto both vertical tracks just above the third roller. This is to prevent the garage door from rising while winding counterbalance springs.

**IMPORTANT:** DOUBLE CHECK TO ENSURE ALL SPRING(S) AND OR BEARING BOLTS ARE TIGHTENED.

## WARNING

**FAILURE TO PLACE VICE CLAMPS ONTO VERTICAL TRACK CAN ALLOW DOOR TO RAISE AND CAUSE SEVERE OR FATAL INJURY.**



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## Winding Springs

Tools: Step Ladder, Approved winding bars, 3/8" Wrench

Position a ladder slightly to the side of the spring so that the winding cone is easily accessible, and so your body is not directly in line with the winding rods.

**IMPORTANT:** CHECK THE WARNING TAG (S) ATTACHED TO THE SPRING(S) FOR THE REQUIRED NUMBER OF COMPLETE TURNS, TO BALANCE YOUR DOOR.

## WARNING

**PRIOR TO WINDING OR MAKING ADJUSTMENTS TO THE SPRINGS, ENSURE YOU'RE WINDING IN THE PROPER DIRECTION AS STATED IN THESE INSTALLATION INSTRUCTIONS. OTHERWISE THE SPRING FITTINGS MAY RELEASE FROM SPRING IF NOT WOUND IN THE PROPER DIRECTION AND COULD RESULT IN SEVERE OR FATAL INJURY.**

Alternately inserting the winding rods into the holes of the springs winding cone, rotate the winding cone upward toward the ceiling, as shown, 1/4 turn at a time, until the required number of complete turns for your door height is achieved. As the last 1/8 to 1/4 turn is achieved, securely hold the winding rod while tightening both set screws in the winding cone to 14-15 ft. lbs. of torque (once set screws contact the shaft, tighten screws one full turn).

Carefully remove winding rod from winding cone. Repeat same process for remaining spring(s). While holding the door down to prevent it from raising unexpectedly in the event the spring(s) were over-wound, carefully remove the locking pliers from the torsion tube and vertical tracks.

Adjustments to the number of turns stated may be necessary. If door rises off floor under spring tension alone, reduce spring tension until door rests on the floor. If the door is hard to rise or drifts down on its own, add spring tension.

**NOTE:** An unbalanced door such as this can cause garage door opener operation problems.

Now, permanently attach the weatherstrips on both door jambs and header. The weatherstrips were temporarily attached in Preparing the Opening, in the pre-installation section of this manual.

**NOTE:** When permanently attaching the weatherstrips to the jambs, avoid pushing the weatherstrips too tightly against the face of door.

Now, lift door and check its balance. Adjustments to the required number of spring turns stated may be necessary. If door rises off floor under spring tension alone, reduce spring tension until door rests on the floor. If the door is hard to raise or drifts down on its own, add spring tension. A poorly balanced door can cause garage door operator operation problems.

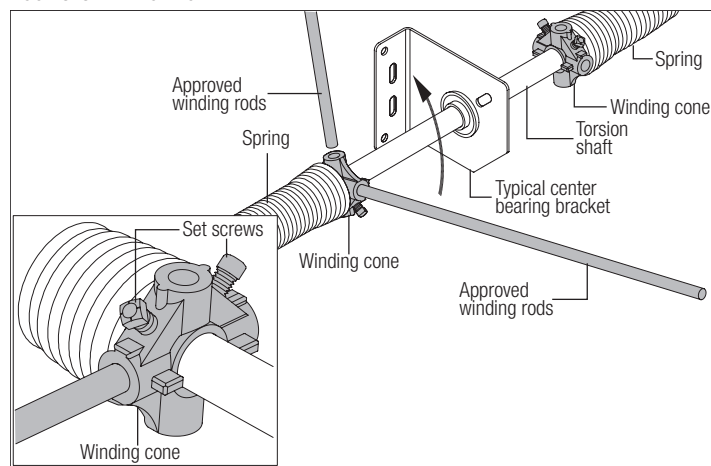
To adjust spring tension, fully close door. Apply vice grips to track above third track roller. Insert a winding rod into the winding cone. On single spring doors, counterbalance lift cable tension must be maintained by placing vice grips on torsion shaft before loosening set screws in the winding cone. Push upward on the winding rod while carefully loosening the set screws in the winding cone. BE PREPARED TO SUPPORT THE FULL FORCE OF THE TORSION SPRING ONCE THE SET SCREWS ARE LOOSE. Carefully adjust spring tension 1/4 turn. Retighten both set screws in the winding cone and repeat for the other side. Recheck door balance DO NOT ADJUST MORE THAN 1/2 TURN FROM THE RECOMMENDED NUMBER OF TURNS.

If door still does not balance correctly, contact a qualified door agency. If the door still does not operate easily, lower the door into the closed position, UNWIND THE SPRING(S) FULLY (Reference the insert "Removing The Old Door/Preparing The Opening" section on torsion spring removal), and recheck the following the items:

- 1.) Check the door for level.
- 2.) Check the torsion shaft for level.
- 3.) Check the track spacing.
- 4.) Check the counterbalance lift cables for equal tension.
- 5.) Check the track for potential obstruction of the track rollers.

6.) Clamp locking pliers onto track and rewind springs.

**IMPORTANT:** IF DOOR STILL DOES NOT OPERATE PROPERLY, THEN CONTACT A TRAINED DOOR SYSTEM TECHNICIAN.



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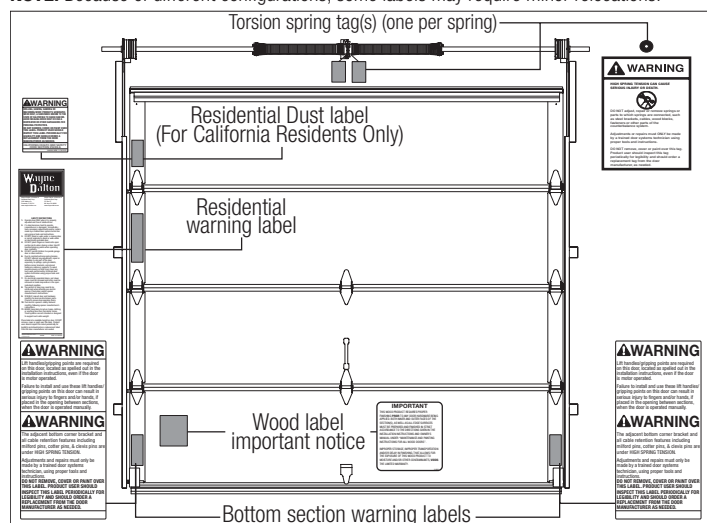
## Label Placement

Tools: Step Ladder

**IMPORTANT:** USING THE ILLUSTRATION, ATTACH THE APPROPRIATE LABELS TO THE APPROPRIATE LOCATION ON THE SECTION, AS SHOWN.

**NOTE:** The Spring Warning tag(s) are factory attached (one per spring).

**NOTE:** Because of different configurations, some labels may require minor relocations.





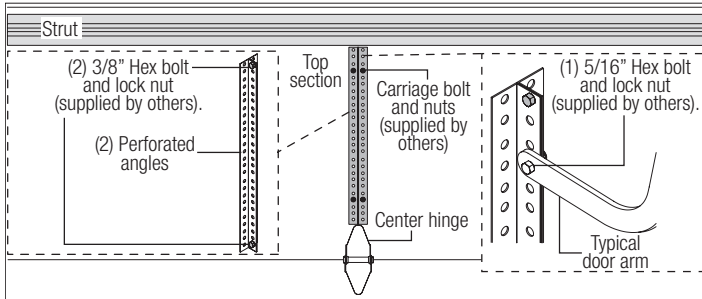
## Optional Installation

### Door Arm Hookup

Tools: Needle nose pliers

At the center of the top section, measure horizontally from the top of center hinge to the bottom of strut. Using that dimension, measure and cut (2) pieces of perforated angles. Assemble the (2) pieces together using (2) 3/8" bolts and nuts (supplied by others). Now, secure to the top section using carriage bolts and nuts (supplied by others), thru bolt both the perforated angles to the top section, as shown.

Align the door arm with hole with one of the holes in the perforated angles. Secure the door arm to the perforated angle using (1) 5/16" - 18 x 1" hex head bolt and (1) 5/16" - 18 lock nut (supplied by others), as shown.



### Lift Handles

Tools: Power drill, 1/8" Drill bit, Tape measure

**NOTE:** Lift handles must be lined up vertically.

Bottom Section:

Locate the exterior center stile or center most stile on the bottom section.

**NOTE:** For flush doors, find the center most stile by locating the center most hinge.

Using the bottom hole of the lift handle, measure up 3" from the bottom of bottom section. Mark the hole locations and drill (2) 9/32" dia. holes through the bottom section. On the outside of the door, insert (2) 1/4" - 20 x 2 1/2" carriage bolts (black head) into the outside lift handle and insert the assembly into the (2) pre-drilled holes in the bottom section. From the inside, slide the (2) holes in the inside lift handle over the stems of the carriage bolts. Secure the outside and inside lift handle to the bottom section with (2) 1/4" - 20 flange hex nuts.

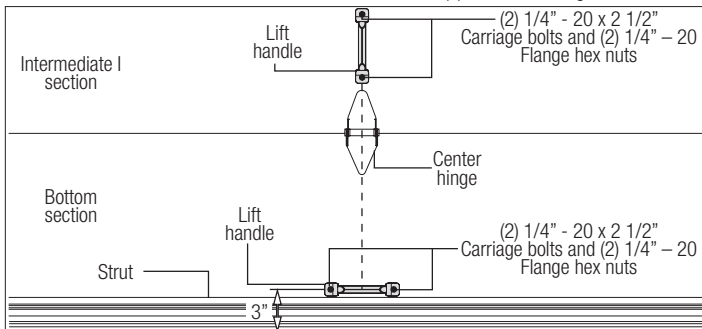
Intermediate I Section:

Locate the exterior center stile or center most stile on the Intermediate I section. Mark a vertical line on the section at that point.

**NOTE:** Some Garage Doors may require both lift handles to be installed on bottom section. If your bottom section height is 28" or 29", install both lift handles onto the bottom section. Install bottom lift handle per above instructions, then install the second lift handle a Minimum of 20" and a Maximum of 30" above the bottom lift handle.

Measure up 4" from the bottom of the Intermediate I section. Using this measurement as a guide, position the bottom hole of the lift handle bottom at the mark. Make a mark at the top hole of the lift handle. This should give you a Minimum of 20" and a Maximum of 30" between the lower lift handle and the middle of the top lift handle. If needed, reposition the lift handle to stay within the Minimum and Maximum dimensions, as stated above.

Using the lift handle as a template, mark the hole locations and drill (2) 9/32" dia. holes through the section. On the outside of the door, insert (2) 1/4" - 20 x 2 1/2" carriage bolts (black head) into the outside lift handle and insert the assembly into the (2) pre-drilled holes in the section. From the inside, slide the (2) holes in the inside lift handle over the stems of the carriage bolts. Secure the outside and inside lift handle to the section with (2) 1/4" - 20 flange hex nuts.



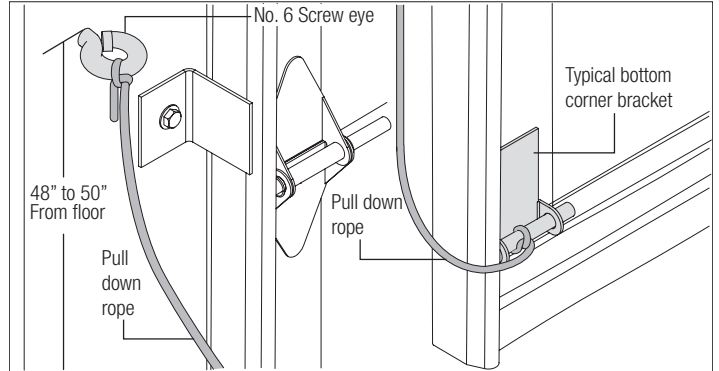
### Pull Down Rope

Tools: Power drill, 1/8" Drill bit, Tape measure

## WARNING

**DO NOT INSTALL PULL DOWN ROPE ON DOORS WITH OPERATORS. CHILDREN MAY BECOME ENTANGLED IN THE ROPE CAUSING SEVERE OR FATAL INJURY.**

Measure and mark the jamb approximately 48" to 50" (1220 to 1270 mm) from floor on the right or left side of jamb. Drill 1/8" pilot hole for no. 6 screw eye. Tie the pull down rope to the no. 6 screw eye and to the bottom corner bracket, as shown.



### Cleaning Your Garage Door

**IMPORTANT:** DO NOT USE A PRESSURE WASHER ON YOUR GARAGE DOOR!

An annual inspection of all the surfaces of your garage door(s) will reveal the extent of weathering and the possible need for refinishing. When the finish becomes eroded or thin, clean and prime any areas showing deterioration. Then completely refinish the door, according to the directions, listed below, or the manufacturer's label directions. Proper finishing of the wood substrates to protect your door(s) from the effects of moisture and sunlight is vital in extending the service life and beautifying your garage door(s).

The interior and exterior surfaces, as well as all edges must be properly primed, painted and maintained, to protect and beautify your door. These finishing instructions are intended to achieve both objectives for your wood doors(s).

**NOTE:** Be sure to clean behind weatherstrips on both sides and top of door.

**CAUTION:** NEVER MIX CLEANSERS OR DETERGENTS WITH BLEACH.

#### GLASS CLEANING INSTRUCTIONS

Clean with a mild detergent solution (same as above) and a soft cloth. After cleaning, rinse thoroughly.

#### ACRYLIC CLEANING INSTRUCTIONS

Clean acrylic glazing with nonabrasive soap or detergent and plenty of water. Use your bare hands to feel and dislodge any caked on particles. A soft, grit-free cloth, sponge or chamois may be used to wipe the surface. Do not use hard or rough cloths that will scratch the acrylic glazing. Dry glazing with a clean damp chamois.

**NOTE:** Do not use any window cleaning fluids, scouring compounds, gritty cloths or solvent-based cleaners of any kind.

Clean all surfaces of dust, dirt and any other contaminants. Any scarring or stains that occur during transportation, handling or storage must be re-sanded to the original condition.

### Painting Your Garage Door

A high quality exterior 100% Acrylic Latex based finish paint is recommended for painting your wood door. FOR BEST RESULTS DO NOT USE A DARK COLOR PAINT. HIGH HEAT ABSORPTION CAN CAUSE EXCESSIVE BOWING AND CRACKING OF THE WOOD. If priming is necessary, prime the interior and exterior surfaces, as well as all edges, using a primer compatible with the selected finish paint and for the specific species of wood substrate being finished.

**NOTE:** Some species of wood, such as cedar, require special primers and finishes to prevent tannin stains from appearing. Consult with your paint supplier.

If the door is factory primed by Wayne-Dalton, the priming step is not required, except if touch-up is needed due to surface preparation and re-sanding.

**NOTE:** Wayne-Dalton uses a latex primer.

Finish paint the interior and exterior surfaces, as well as all edges with at least 2 coats of a high quality exterior 100% Acrylic Latex finish paint over the primer. Follow paint manufacture's label directions explicitly for all coatings.

**IMPORTANT:** THE FOLLOWING TOP COATS ARE NOT RECOMMENDED. SHAKE AND SHINGLE PAINTS, CLEAR COATINGS, OIL OR ALKYD PAINTS, VINYL ACETATE (PVA), VINYL ACRYLIC OR VINYL ACETATE ACRYLIC CO-POLYMER PAINTS.

### Clear Or Stained Finishes

If staining, select an exterior grade stain, approved for use on the species of wood substrates being finished and compatible with Alkyd varnishes. FOR BEST RESULTS DO NOT USE A DARK STAIN. HIGH HEAT ABSORPTION CAN CAUSE EXCESSIVE BOWING AND CRACKING OF THE WOOD. Apply the stain to the interior and exterior surfaces, as well as all edges, following stain manufacturer's label directions. After proper drying time for the stain, or if wood is being left natural, apply 1 coat of waterproof exterior Alkyd varnish (marine type varnish) to the interior and exterior surfaces, as well as all edges. After recommended drying time of 1st coat, sand all surfaces with fine grit (320) sandpaper. Clean all surfaces of sanding dust and apply a 2nd coat of the Alkyd varnish to the interior and exterior surfaces, as well as all edges. After 2nd coat is dry, sand all surfaces again with fine grit (320) sandpaper. Clean all surfaces of sanding dust and apply a final 3rd coat of the Alkyd varnish to all surfaces.

Three finish coats of waterproof exterior Alkyd varnish are required to properly finish a stained or natural wood door. Follow the finish manufacturer's label directions explicitly for each coat applied.

**NOTE:** Do not stain MDO plywood, apply paint only.

Only a waterproof exterior Alkyd varnish top coat finish is approved for stained or natural wood doors. Other types of top coat finishes, including deck sealers, are not acceptable and if used, will void the warranty.

### Operation and Maintenance

#### OPERATING YOUR GARAGE DOOR:

Before you begin, read all warning labels affixed to the door and the installation instructions and owner's manual. When correctly installed, your Wayne-Dalton door will operate smoothly. Always operate your door with controlled movements. Do not slam your door or throw your door into the open position, this may cause damage to the door or its components. If your door has an electric opener, refer to the owner's manual to disconnect the opener before performing manual door operation below.

#### Manual door operation:

For additional information on manual garage door operations go to [www.dasma.com](http://www.dasma.com) and reference TDS 165.

**IMPORTANT:** DO NOT PLACE FINGERS OR HANDS INTO SECTION JOINTS WHEN OPENING AND/OR CLOSING A DOOR. ALWAYS USE LIFT HANDLES / SUITABLE GRIPPING POINTS WHEN OPERATING THE DOOR MANUALLY.

Opening a Door: Make sure the lock(s) are in the unlocked position. Lift the door by using the lift handles / suitable gripping points only. Door should open with little resistance.

Closing a Door: From inside the garage, pull door downward using lift handles / gripping point only or a high friction area only. If you are unable to reach the lift handles/ suitable gripping points only, use pull down rope affixed to the side of door. Door should close completely with little resistance.

#### Using an electric operator:

**IMPORTANT:** PULL DOWN ROPES MUST BE REMOVED AND LOCKS MUST BE REMOVED OR MADE INOPERATIVE IN THE UNLOCKED POSITION.

When connecting a drawbar (trolley type) garage door operator to this door, an drawbar operator and/or drawbar operator bracket must be securely attached to the top section of the door, along with any struts provided with the door. Always use the drawbar operator and/or drawbar operator bracket supplied with the door. To avoid possible damage to your door, Wayne-Dalton recommends reinforcing the top section on models 8000, 8100, 8200 and 9100 doors with a strut (may or may not be supplied). The installation of the drawbar operator must be according to manufacturer's instructions and force settings must be adjusted properly. Refer to the owner's manual supplied with your drawbar operator for complete details on installation, operation, maintenance and testing of the operator.

#### MAINTAINING YOUR GARAGE DOOR:

Before you begin, read all warning labels affixed to the door and the installation instructions and owner's manual. Perform routine maintenance steps once a month, and have the door professionally inspected once a year. Review your Installation Instructions and Owner's Manual for the garage door. These instructions are available at no charge from Wayne-Dalton, A Division Of Overhead Door Corporation, P.O. Box 67, Mt. Hope, OH., 44660, or at [www.wayne-dalton.com](http://www.wayne-dalton.com). For additional information on garage door/operator maintenance go to [www.dasma.com](http://www.dasma.com) and reference TDS 151, 167 and 179.

#### Monthly Inspections:

**1. Visual Inspection:** Closely inspect jambs, header and mounting surface. Any wood found not to be structurally sound must be replaced. Inspect the springs, counterbalance lift cables, track rollers, pulleys, rear back hangs and other door hardware for signs of worn or broken parts. Tighten any loose screws and/or bolts. Check exterior surface of the door sections for any minor cracks. Verify door has not shifted right or left in the opening. If you suspect problems, have a trained door system technician make the repairs.

### ⚠ WARNING

**GARAGE DOOR SPRINGS, COUNTERBALANCE LIFT CABLES, BRACKETS, AND OTHER HARDWARE ATTACHED TO THE SPRINGS ARE UNDER EXTREME TENSION, AND IF HANDLED IMPROPERLY, CAN CAUSE SEVERE OR FATAL INJURY. ONLY A TRAINED DOOR SYSTEMS TECHNICIAN SHOULD ADJUST THEM, BY CAREFULLY FOLLOWING THE MANUFACTURER'S INSTRUCTIONS.**

### ⚠ WARNING

**NEVER REMOVE, ADJUST, OR LOOSEN THE BOLTS, SCREWS AND/OR LAG SCREWS ON THE COUNTERBALANCE (END OR CENTER BEARING BRACKETS) SYSTEM OR BOTTOM CORNER BRACKETS OF THE DOOR. THESE BRACKETS ARE CONNECTED TO THE SPRING(S) AND ARE UNDER EXTREME TENSION. TO AVOID POSSIBLE SEVERE OR FATAL INJURY, HAVE ANY SUCH WORK PERFORMED BY A TRAINED DOOR SYSTEMS TECHNICIAN USING PROPER TOOLS AND INSTRUCTIONS.**

TorqueMaster® Plus Springs: Pawl knob(s) (located on the TorqueMaster® end brackets above the door) should be engaged to prevent the door from rapidly descending in case of spring failure or forceful manual operation.

Torsion Springs: The torsion springs (located above the door) should only be adjusted by a trained door systems technician. DO NOT attempt to repair or adjust torsion springs yourself.

Extension Springs: A restraining cable or other device should be installed on the extension spring (located above the horizontal tracks) to help contain the spring if it breaks.

**2. Door Balance:** Periodically test the balance of your door. If you have a garage door drawbar operator, use the release mechanism so you can operate the door by hand when doing this test. Start with the door in the fully closed position. Lift the door to check its balance. Adjust TorqueMaster® or Extension spring(s), if door lifts by itself (hard to pull down) or if door is difficult to lift (easy to pull down). DO NOT attempt to repair or adjust Torsion Springs yourself. To adjust TorqueMaster® or Extension spring(s), refer to your installation instructions and owner's manual. If in question about any of the procedures, do not perform the work. Instead, have it adjusted by a trained door systems technician.

**3. Lubrication:** The door should open and close smoothly. Ensure the door track rollers are rotating freely when opening and closing the door. If track rollers do not rotate freely, clean the door tracks, removing dirt and any foreign substances. Clean and lubricate (use a non-silicon based lubricant) graduated end hinges, steel track rollers, spring(s) and bearings. DO NOT lubricate plastic idler bearings, nylon track rollers, door track. DO NOT oil a cylinder lock, if actuation is difficult use a graphite dust to lubricate.

## Limited warranty

### Wayne Wood, Raised Panel, 105/110, 310/311

Subject to the terms and conditions contained in this Limited Warranty, Wayne-Dalton ("Manufacturer") warrants the sections of the door, against defects in material and workmanship, for a period of **ONE (1) YEAR** from the time of delivery provided:

- i) (i) The interior and exterior surfaces, as well as all edges of the wood door(s) are properly finished according to the Manufacturer's Maintenance and Painting Instructions and finish manufacturer's instructions. All surfaces of the wood door(s) must be completely finished (3 total coats, including primer coat) prior to installation, to ensure that the interior and exterior surfaces, as well as all edges of the doors are properly protected against moisture or other contaminants. Wood doors, in a non-finished condition, must be transported and stored so the wood surfaces are NOT exposed to moisture or other contaminants. If the door(s) is not finished within **TEN (10) DAYS** of delivery, this warranty shall only extend to defects in workmanship and materials that appear within **ONE (1) MONTH**. IMPROPER TRANSPORTATION, STORAGE OR DELAYS IN FINISHING, THAT ALLOWS EXPOSURE OF THE WOOD DOOR SURFACES TO MOISTURE OR OTHER CONTAMINANTS WILL RESULT IN THE WARRANTY BEING VOIDED.

The Manufacturer warrants the garage door hardware, tracks and springs of the above-described door, for a period of **ONE (1) YEAR** from the date of installation, against defects in material and workmanship, subject to all the terms and conditions below.

The Manufacturer will not be responsible for grain and color variations of natural wood. These natural variations in grain and color are not product defects, and therefore will not be considered under this Limited Warranty.

The Manufacturer uses high quality material for framework, door skins, overlays, and panel materials. Exposure of wood to the environment may cause bowing, checking and/or cracking of a door section regardless of efficiency of painting. This is not considered a defect; it is an uncontrollable characteristic of natural wood. The dealer and the end user have the responsibility to select the type of material and/or door which will offer the best results and longevity for the climate and/or environmental condition in which they will use the product.

This Limited Warranty is extended only to the person who purchased the product and continues to own the premises (where the door is installed) as his/her primary residence ("Buyer"). This Limited Warranty does not apply to residences other than primary, or to commercial or industrial installations, or to installations on rental property (even when used by a tenant as a residence). This Limited Warranty is not transferable to any other person (even when the premises is sold), nor does it extend benefits to any other person. As a result this Limited Warranty does NOT apply to any person who purchases the product from someone other than an authorized Wayne-Dalton dealer or distributor.

The Manufacturer will not be responsible for any damage attributable to improper storage, improper installation, or any alteration of the door or its components, abuse, damage from corrosive fumes or substances, salt spray or saltwater air, fire, Acts of God, failure to properly maintain the door, or attempt to use the door, its components or related products for other than its intended purpose and its customary usage. This Limited Warranty does not cover ordinary wear. This Limited Warranty will be voided if any holes are drilled into the door, other than those specified by the Manufacturer.

THIS LIMITED WARRANTY COVERS A CONSUMER PRODUCT AS DEFINED BY THE MAGNUSON-MOSS ACT. NO WARRANTIES, EXPRESS OR IMPLIED (INCLUDING BUT NOT LIMITED TO THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) WILL EXTEND BEYOND THE TIME PERIOD SET FORTH IN **UNDERScoreD BOLD FACE TYPE** IN THIS LIMITED WARRANTY, ABOVE.

- • Some States do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

Any claim under this Limited Warranty must be made in writing, within the applicable warranty period, to the dealer from which the product was purchased. Unless the dealer is no longer in business, a written claim to the Manufacturer will be the same as if no claim had been made at all.

At the Manufacturer's option, pursuant to the dealer having notified the Manufacturer of a warranty claim, a service representative may inspect the product on site, or Buyer may be required to return the product to the Manufacturer at Buyer's expense. Buyer agrees to cooperate with any representative of the Manufacturer and to give such representative full access to the product with the claimed defect and full access to the location of its installation.

If the Manufacturer determines that the claim is valid under the terms of this Limited Warranty, the Manufacturer will cause the defective product to be repaired or replaced. The decision about the manner in which the defect will be remedied will be at the discretion of the Manufacturer, subject to applicable law. THE REMEDY WILL COVER ONLY MATERIAL. THIS LIMITED WARRANTY DOES NOT COVER OTHER CHARGES, SUCH AS FIELD SERVICE LABOR FOR REMOVAL, INSTALLATION, PAINTING, SHIPPING, ETC.

Any repairs or replacements arranged by Manufacturer will be covered by (and subject to) the terms, conditions, limitations and exceptions of this Limited Warranty; provided, however, that the installation date for the repaired or replaced product will be deemed to be the date the original product was installed, and this Limited Warranty will expire at the same time as if there had been no defect. If a claim under this Limited Warranty is resolved in a manner other than described in the immediately preceding paragraph, then neither this Limited Warranty nor any other warranty from the Manufacturer will cover the repaired or replaced portion of the product.

THE REMEDIES FOR THE BUYER DESCRIBED IN THIS LIMITED WARRANTY ARE EXCLUSIVE and take the place of any other remedy. The liability of the Manufacturer, whether in contract or tort, under warranty, product liability, or otherwise, will not go beyond the Manufacturer's obligation to repair or replace, at its option, as described above. THE MANUFACTURER WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, including (but not limited to) damage or loss of other property or equipment, personal injury, loss of profits or revenues, business or service interruptions, cost of capital, cost of purchase or replacement of other goods, or claims of third parties for any of the foregoing.

- • Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

No employee, distributor, dealer, representative, or other person has the authority to modify any term or condition contained in this Limited Warranty or to grant any other warranty on behalf of or binding on the Manufacturer, and anyone's attempt to do so will be null and void.

Buyer should be prepared to verify the date of installation to the satisfaction of the Manufacturer.

The rights and obligations of the Manufacturer and Buyer under this Limited Warranty will be governed by the laws of the State of Ohio, USA, to the extent permitted by law.

- • This Limited Warranty gives you specific legal rights and you may also have other rights, which may vary from State to State.

**\*\*NOTE:** Variations in color or graining of natural wood is not considered a product defect, and therefore not covered under the limited warranty.

**\*\*Grain and color variations are inherent to natural wood. These natural variations in grain and color are not product defects and therefore will not be considered under Wayne-Dalton's limited warranty.**



Covered by one or more of the following Patents; 5,408,724; 5,409,051; 5,419,010; 5,495,640; 5,522,446; 5,562,141; 5,566,740; 5,568,672; 5,718,533; 6,019,269; 6,089,304; 6,644,378; 6,374,567; 6,561,256; 6,527,037; 6,640,872; 6,672,362; 6,725,898; 6,843,300; 6,915,573; 6,951,237; 7,014,386; 7,036,548; 7,059,380; 7,121,317; 7,128,123; 7,134,471; 7,134,472; 7,219,392; 7,254,868. Canadian: 2,384,936; 2,477,445; 2,495,175; 2,507,590; 2,530,701; 2,530,74; 2, 2,532,824. Other US and Foreign Patents pending.

### **Please Do Not Return This Product To The Store**

Contact your local Wayne-Dalton dealer. To find your local Wayne-Dalton dealer, refer to your local yellow pages business listings or go to the **Find a Dealer** section online at **[www.Wayne-Dalton.com](http://www.Wayne-Dalton.com)**

Thank you for your purchase.

AFTER INSTALLATION IS COMPLETE, FASTEN THIS MANUAL NEAR THE GARAGE DOOR.